





الشرح؟ Can you Explain?

>> Energy can be changed from one form to another.

به كن أن تتحول الطاقة داخل الأجهزة من صورة الأخرى.

Device		Energy Consumed	Energy Produced
Electric lamp	The state of the s	Electric	Light & heat
Electric iron	9	Electric	Heat
Radio		Electric	Sound
TV		Electric	Sound & light
Celiular phone	1015	Electric	Sound & light

Technology helps us to change solar energy into other forms:

Solar cells Solar heater Solar Flectric Solar Heat



(1)	Fill in the	gaps usi	ng the	following	words:
-----	-------------	----------	--------	-----------	--------

	-				
(e	lect	ric – heat – solar - radio – con:	sumed – produced – se	olar cel	is)
	1	Thechanges elec	ctric energy into sound	energy	
	0	The electric heater consumes energy.	energy an	d prod	uces
	3	Electric energy is the energy	In a TV.		
	4	Light energy is the energy	from a TV.		
	6	Solar cells change	energy into electric er	nergy.	
2	Pu	t (/) or (X):			
	0	Energy can be changed from o	one form to another,	()
	0	TV consumes electric energy.		()
	(TV and cellular phones produc	e light energy only.	()
	0	Solar cells produce heat energy	y.	()



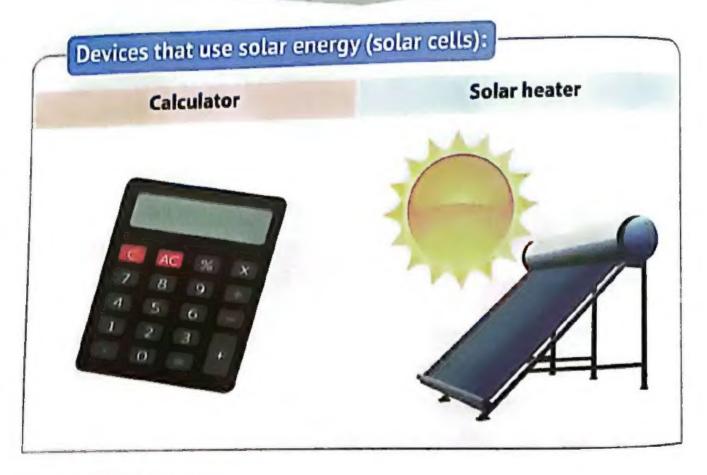
Toy Cars Operated by Remote Controls السيارات اللعبة التي يتم التحكم بها عن بُعد

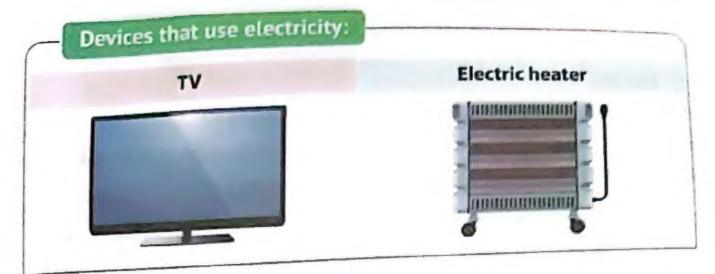
- Toy cars that are operated by a <u>remote</u> control need energy to operate (move).
- Devices need a source of energy, such as batteries to operate.
- Batteries contain <u>chemical energy</u> that changes to <u>electric energy</u>.

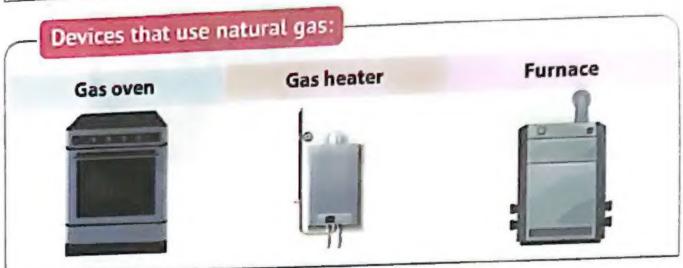


- نحتاج السيارات اللعبة التي يتم التحكم بها عن بُعد إلى الطاقة لتشغيلها.
 - الأجهزة أيضًا إلى مصدر طاقة كالبطاريات لتشغيلها.
 - نحول البطاريات الطاقة الكميائية إلى طاقة كهربية.

مصندر الطاقة - Sources of Energy









Complete the following:

- Toy cars that are operated by a need energy to operate.
- Devices need a source of energy, such as ______ to operate.
- Batteries contain energy that changes to
 energy.
- Calculators use energy to operate.
- Gas ovens use energy to work.
- 6 and consume electric energy.

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عربة اكتشاف المريخ - Mars Exploration Vehicle

- >> The distance between Earth & Mars is 54 millions km.
- >> The spacecraft needs more than 6 months to arrive on Mars.
- >> Humans send robots which are operated by remote controls to explore Management of the space o
- >> One of the most famous robots is Curiosity Robot.



- » علغ السانة بين الأرض والريخ 54 مليون كيلومتراً وتعتاج المركبة الفضائية 6 أشهر للوصول لسطح المريخ،
 - » أرسل الإنسان روبونات بتم التحكم بها عن بعد لاكتشاف المريخ ومن أشهرها (كيريوسيتي).

Why is it difficult to obtain electricity to operate robots?

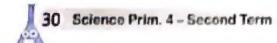
- >>> The robot is very far from any plug, electric charge or markets.
- It is impossible to connect the charger to the rocket plugs.

ماسبب صعوبة الحصول على الكهرباء اللازمة لتشغيل الروبوت؟

- ١ التهابعيدة جدًّا عن أي قابس أو شاحن كهربي أو متجر بطاريات،
 - المنحيل توصيل سلك شاحن كهربى من أنرب صاروخ لها.

How do robots obtain electricity?

- >>> We can use long-term batteries or solar panels that use solar energy.
 - ₩ وبالتالي يمكن استخدام: بطاريات طويلة الأمدأو لوحات شمسية (تعمل بالطاقة الشمسية).





How do vehicles get the energy they need to move on Mars's surface to explore it

>>	The vehicle changes	solar	energy	to	electric,	heat	8	kinetic	energies	to
	operate its sensors to	move	on Mar	5.						

 تحول المركبة الطاقة الشعسية إلى طاقة كهربية وحركية وحرارية لتشغيل أجهزة استشعارها لتتحرك على سطح المريخ.



1	Co	emplete the following:		
	0	The distance between Earth and Mars is .		
	2	A spacecraft needs more than to arrive on	Mars.	
	•	Humans send robots which are operated by	to expl	ore
	0	Robots on Mars are very far away from or		
	6	Vehicles on Mars change energy into and energies to operate their to move on Mars.		,
2	Pu	t (/) or (X):		
	1	A spacecraft needs about 6 years to arrive on Mars.	()
	2	Robots on Mars move by special long-term batteries.	()
	3	A robot can get energy from the nearest rocket to it.	()
	0	It is possible to connect the charger to the rocket plugs	. ()



والطاقة Devices and Energy

Energy & the need of devices to it

الطاقة وحاجة الأجهرة إليها

- Energy makes devices & toys move and do their functions, such as rotate, in angles, moving their arms or operating their cameras.
- >> The source of energy in devices and toys is the chemical energy stored a batteries.
- >> When batteries run out, devices stop.
- To make a battery work again,
 - we charge it.
 - we exchange it by a new battery.



سلاسل الطاقة - Energy Chains

- >> The main source of energy is the Sun.
- Where <u>nuclear</u> energy changes to <u>light</u> energy, which is absorbed by the plants to start the chain.





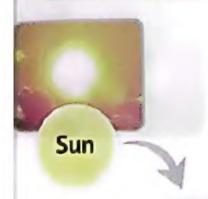
10	Complete	the	following
----	----------	-----	-----------

0	Energy makes devices	and	*******************	
---	----------------------	-----	---------------------	--

- The source of energy in devices and toys is the stored in
- When batteries run out, we must or them.
- is the main source of energy.

Examples of Energy Chains

Energy chain in eating food, such as orange:



Light energy



Chemical energy stored in food



Sugar substances which feed humans

Kinetic energy



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Energy chain in heating water:







Chemical energy stored in a tree







Sugar substances عناصر غذائية

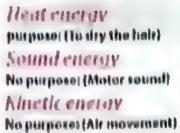
Kinetic energy الطاقة الحركية

Cutting trees قطع الأشجار

Burning trees حرق الأشجار

Energy chain in a hair dryer:



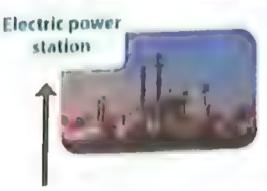






In the In hair dryer













Hair dryer

مجلف شعر

Coal

القحم

Electric power station محطة توليد الكهرباء

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Cutting trees

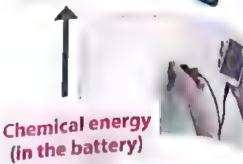


Electric power station Hair dryer محطة توليد الكهرباء القحم



Coal







Light energy Sound energy









Mobile charger عن الجوال

Coal



10	Co	implete the foli	owing:			
	1	Any energy chair	starts with the			
	0	ener	gy is stored in trees.			
	3	Electric power sta	itions consume	and produce		
	0	We can get	energy by bu	rning trees.		
	3	þ	and	energies are p	produc	ed
		from the hair dry	er.			
2	Pu	it (√) or (×):				
	1	Any energy chair	ends with the Sun.		()
	2	The chemical ene	ergy is stored in tree	s and batteries.	()
	3	Coal is used in elec	ctric power stations to	o produce heat ener	gy.()
	0	It is impossible to	use any device wit	hout the Sun.	()

تحولات الطاقة - Energy Transformations

Deva		Function	Parity Ing.	
Hair Dryer		Drying hair	Electric	Heat Sound Kinetic
Soap Dispenser		Dispensing soap	Potential	Kinetic
Washing Machine		Washing	Electric	Kinetic
Electric Bulb	U	Lighting houses	Electric	Light & heat
Motor Engine		Moving things	Electric	Kinetic
6 Dynamo		Obtaining electricity	Kinetic	Electric
Mobile Phone	B	Making calls	Chemical (in the battery)	Sound & Light

Device		Function	Energy Input	En rigy Domine
Bike	00	Transporting	Chemical (in the human body)	Kinetic
(9) Electric Iron	0	Ironing clothes	Electric	Heat
10 TV		Transferring sound and image	Electric	Sound & Light
11: Fan		Moving the air	Electric	Kinetic
12 Small Watch	7 6	Knowing time	Chemical	Kinetic
13 Toy Car		Toy for kids	Elastic potential	Kinetic
Hand Bell		Getting attention	Kinetic	Sound

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Complete the following	•	
is used to m	nake calls, while	is used for
knowing time.		
is used to get	t electricity, while	is used to
move things.		
6 An electric fan changes energy.	energy into	0
A bike changes	energy into	energy,
A small watch changes	energy into	energy.
6 A hand bell changes	energy into	energy.
A toy car changes	energy into	energy,
and	change electric energ	y into kinetic
energy.		
2 Put (√) or (X):		
A hair dryer changes electrical	ic energy into heat energ	y only.(
O Dynamo is used to move the		()
Electric energy is the resulti	ng energy in electric bul	bs. ()
A hand bell is used to know	the main four directions	s. (,





مانون تفاء الطامة Law of Conservation of Energy



On driving a bike:



Chemical energy







A part of the kinetic energy changes to heat energy due to the friction between the bike wheels and the road.



In the electric lamp:



Electric energy



Light energy



A part of the electric energy changes to heat energy, so you feel hot when you approach your hand to it.

From the previous:

Law of Conservation of Energy فاللون للماء التظامية

Energy is neither created nor destroyed but it changes from one form to another.

الطاقة لا تفنى أو تستحدث من العدم ولكن يمكن تحويلها من صورة لأخرى.

Science Prim. 4 - Second To





Complete the following

- On driving a bike, energy changes to energy.
- A part of the kinetic energy of the bike changes to due to the between the road and the bike wheels
- 6) An electric lamp changes energy into energy.
- O When you approach your hand to an electric lamp, you les

Put (/) or (X):

- Energy is neither created nor destroyed but it can be changed. (
- The moving bike changes kinetic energy into chemical energy,
- The electric lamp changes electric energy into light energy only.





تدفق الطاقة

Energy Flow

Energy is saved and is neither created nor destroyed.

الطاقة محلوظة ولا يمكن أن تفنى أو تنعدم.



Input Energy

Electric energy



Output Energy

Heat energy

purpose: (To dry the hair)

Sound energy

No purpose: (Mator

sound)

Kinetic energy

No purpose:

(Air movement)



Input Energy

Electric energy



Output Energy

Light energy

Sound energy

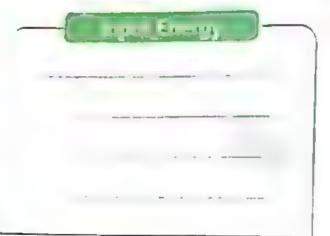
Data processing

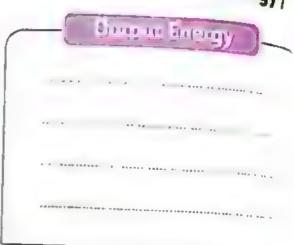
معالجة البيانات



Classify these energies in mobile phones to input and output

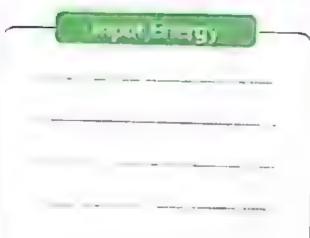
(Electric energy - Heat energy - Sound energy - Kinetic energy)





Classify these energies in electric lamps to input and output

(Electric energy – Heat energy – Light energy)



	Omputi Energy	
*******	Educative dayung against against a second of the same or day a	
	p	
***	ABOVATE COMMONDATION OF COMMONDATION AND COMMONDATION OF COMMO	-
4 ^ want d q q	ORGAN DA MERVEDOT FORM ANTIAALLE AS INCOME OF	



الطاقة والتحكم بها Energy and Controlling It



Ecologists ماء البيئة

- They check the flow of energy through the food network in the ecosystem because any change in the flow of energy affects the living organisms.
- يتحقق علماء البيئة من تدفق الطاقة خلال الشبكات الغذائية في النظام البيئي حتى لا تتأثر الكائنات الحية.
- They study the flow of energy in difficult ecosystems, such as the North Pole or the ocean bottom.
 - 🥌 يقومون بدراسة تدفق الطاقة الغذائية في الأنظمة البيئية الصعبة مثل القطب الشمالي أو قاع المحيط.



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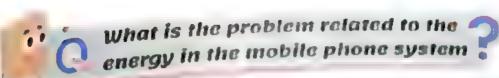
المهندسون Encineers

They design solutions for problems, such as how the mobile screen

المائلة الطلوبة لتضيء المتعلقة بالتكنولوجيا مثل كيفية حصول شاشة الموبايل على المائلة المطلوبة لتضيء



Scanned with CamScanner



The mobile phone consumes large amounts of energy in a short time.

Supply the restention the time ende to

الموبايل يستهلك طاقة كبيرة في وقت قصير.



They modify the battery to last for a longer time after charging it.

و كنم اسلطاع المشاد ١١٥٠٠ حل تلك المشكلة؟

>> تطوير بطاريات الموبايل لتعمل لوقت أطول.











- >> Any energy chain starts with the Sun.
- >> The main source of fuel is the Sun.





Fossil fuels are extracted from underground.

بستخرج الوقود الحقرى من باطن الأرض.







Importance of Fossil Luct; cope all agood arothin



>> Cars need

to move.

(food - fuel - water)

How a Car is Operated: ٢٥ السيارة عمل الس

- Fuel burns inside the car engine.
- 🦇 يحترق الوقود داخل محوك السيارة،
- >> The car engine rotates the wheels of the car.
 - 🧨 يتمكن للحرك من تدوير عجلات السيارة.

If the fuel runs out, the car stops moving.

عندما ينفد الوقود، تتوقف السيارة عن الحرخة.



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1	The main source of fuel is the			
	2 The fossil fuel is extracted from			
	3 and	are examples,		
	fossil fuel.	,		
	 When the fuel burns inside the car, the car When the fuel runs out, the car A car needs to move. 			
.2	Correct the underlined words:			
	Any energy chain ends with the Sun.			
	2 If the fuel burns inside the car engine, the car will stop.			
		(,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		
	Fossil fuels are extracted from mountain	ins. (
	Cars need food to move.	(



أنواع الوقود Types of Fuel

- >>> Burning fuel produces heat energy.
- ٧٧ حرق الوقود ينتج عنه طاقة حرارية.
- >> Wood is the oldest fuel that is still used all over the world.
 - ₹ الخشب هو الوقود الأقدم الذي لا يزال يستخدم في جميع أنحاء العالم.

Types of Fuel





Sy Convent (2). All Model 1 day

Biof

الوقود الحيوي Biofuel

) It is the fuel that is made from the living organisms that can be grown (planting)

» مو الوفود المصنوع من الكائنات الحية التي يمكن زراعتها.



Because it is renewed with the continuous growth of plants.



- >> Ethanol (works as benzene) is made up of grass, corn or wood char
- >> Charcoal is made up of wood.

Disadvantage of Biofuel

To get it, it requires:

cutting trees & the removal of forests.

So it has a negative effect on the environment.

ريتطلب الحصول عليه قطع الأشجار وإزالة الغابات وبالتال له تأثير سلبي على البيئة.



Trees reach their full height in a period approaching the human life. تصل الأشجار للارتفاع الكامل لها بعد عمر يقترب من عمر الإنسان،





الوقود الحفري Fossil Fuel

- It is the fuel resulting from the decomposition of the living organisms remains that lived on the earth millions of years ago.
 - هـو الوقود الذائج مـن تحليل بقايا الكائلات الحيسة التي عاشت على الأرض منسلا ملايين السنين.
 - >> Fossil fuel is a non-renewable source of energy. GR
 - Because it starts to run out as soon as we use it,
 and the rate of our consumption exceeds the rate of its formation.
 - ٧٧ لأنه يبدأ في النفاد بمجرد استهلاكه لأن معدل استهلاكنا له يفوق معدل تكونه.



- >> Coal is produced from the decomposition of plants and trees remains.
- >> <u>Petroleum & natural gas</u> are produced from the decomposition of marine organisms and algae.



Advantages of Fossil Fuel:



Disadvantages of Fossil Fuel:

- >> The amount of it on Earth is limited.
- 🏠 كميته محدودة على كوكب الأرض.
- Burning of fossil fuel produces gases that cause:

air pollution & global warming.

So it has a negative effect on the environment.

» حرق الوقود الحفرى يؤدى لانبعاث غازات تؤدى لتلوث الهواء وزيادة الاحتباس الحراري.



Comparison between Fossil Fuel & Biofuel

Point of **Fossil Fuel** illeiner d Comparison It is the fuel that is made It is the fuel resulting from the decomposition from the living organisms of the living organisms that can be grown Definition remains that lived on the (planted). earth millions of years ago. Wood. 1 Petroleum. 2 Grass. Natural Gas. Examples 3 Corn. 3 Benzene. 4 Wood Chips. 4 Coal. 1 Lighting houses. It is a renewable 2 Warming houses. **Advantages** source of energy. 3 Cooking. 4 Operating cars. It causes: To get it, it requires: 1 Air pollution. **Disadvantages** 1 Cutting trees. 2 Global warming. 2 Removal of forests.



Complete the follow	ing:	
1 Complete	and	are examples
fossil fuels.	and	are examples
biofuels.	مالات من من	tion and global warmin

- causes air pollution and global warming Burning of source of energy.
- .. is made up of grass, corn or wood chips. 6

What is meant by:

- Fossil Fuel:
- Biofuel:





Electricity

الكهرباء

المراب المرابع المرابع

- The old organism that lived millions of years ago dles.
 - یموت الکائن الحی الذی عاش من ملایین السنین.
- These remains are buried under rocks and sediments.
 - ٧٧ تدفن بقايا الكائن الحي تحت الصخور والرمال،
- Under the effect of the high temperature and pressure, these remains change into fossil fuel.
 - تحت تأثير الحرارة والضغط العالى تتحول تلك البقايا إلى وقود حفرى.

Electricity:

- 1 Electricity is generated by burning petroleum or natural gas in electric power stations.
 - الكهرباء عن طريق حرق الوقود.
- Countries started using renewable energy resources, such as wind energy and hydroelectric energy.
 - → بدأت الدول الاهتمام باستخدام مصادر الطاقة الرياح المتجددة مثل: الطاقة الكهرومائية وطاقة الرياح المتحددة مثل: الطاقة الكهرومائية وطاقة الرياح المتحددة مثل الطاقة الرياح المتحددة مثل المتحددة المتحدد المتحددة المتحدد المتحددة المتحدد ال





How is Electricity Generated?



The petroleum or natural gas is burnt and it produces thermal energy بمترق البترول أو الغاز الطبيعي وينتج عنه طاقة حرارية.

Thermal (heat) energy is used to heat water and produce steam.

-) تقوم الطاقة الحرارية بتسخين الماء وتحويله لبخار،
- Steam starts to move turbines.
- بيدأ البخار بتحريك التوربينات.
- A dynamo converts kinetic energy in turbines into electric energy. يقوم الدينامو بتحويل الطاقة الحركية للتوربينات إل طاقة كهربية.
- >>> Electricity transfers through huge wires to cities.
 ثنتقل الطاقة الكهربية عبر الأسلاك إلى المن.





الحفاظ على الوقود الحفري Conserving Fossil Fuels

Environmental Problems in Big Cities المشكلات البيئية في المدن الكبيرة

Reasons of the Increasing Pollution: اسبات زياده البلوت

- 1 Increasing the amount of burning fuel in factories, cars and airplanes.
 - ٧٧ زيادة كمية احتراق الوقود في المصانع والسيارات والطائرات.
- 2 Mixing the pesticides used in farms with the running water of rivers.
 - اختلاط المبيدات الحشرية المستخدمة في المزارع مع مجرى مياه الأنهار.
- Chemical materials used in factories cause air pollution & water pollution.
 - المواد الكيميائية المستخدمة في المصانع تؤدى لتلوث الماء والهواء.







أضرار تلوث الهواء :Negative Effects of Air Pollution

The exhausts of cars & factories cause:

- 1 Eye & lung irritation.
- 2 Damage of tissues of the respiratory system.

🧨 تسبب عوادم السيارات:

- تهيج العينين والرئتين.
- 2 تلف أنسجة الجهاز التنفسي.

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Pollution Resulting From Burning Fuel: التلوك النائج عن حرف الوقود

- >> Carbon dioxide gas resulting from burning fuel is considered the main reason of:
 - Formation of acidle rains.

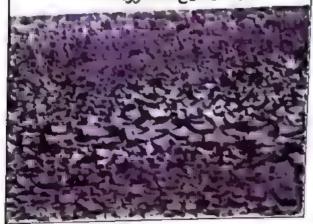
2 Global warming.

، يعتبر غاز ثاني أكسيد الكربون الناتج عند احتراق الوقود السبب الرئيسي لـ: إ تكون الأمطار الحمضية.

2 الاحتباس الحراري.

Acidic Rains الأمطار الحمضية

- Carbon dioxide gas reacts with water vapour forming carbonic acid that causes acidic rains causing:
 - 1 Death of trees.
 - 2 Death of fish.
 - 3 Chemical pollution of soil.
 - 4 Decomposition of some rocks. يتحد غاز ثاني أكسيد الكربون مع بخار الماء مكونًا حمض الكربونيك الذي يسبب:
 - عوت الأشجار.
 عوت الأسماك.
 - 3 التلوث الكيميائي للتربة.
 - 4 تحلل بعض أنواع الصخور.



Global Warming الاحتباس الخرارف

- Carbon dioxide gas is collected and forms a layer in the atmosphere.
 - يتجمع غاز ثانى أكسيد الكربون مكونًا طبقة في الدلاف الجويء
- The heat is trapped in this layer. and the temperature of the earth rises slowly.

ندس الحرارة في تلك الطبقة مما يؤدي لزيادة ررجة حرارة الأرض بيطء.



- >> The amount of the fossil fuel on Earth is limited.
 - >> كمية الوقود الحفرى محدودة على كوكب الأرض.
 - Because the rate of our consumption exceeds the rate of its formation through millions of years.
 - لأن معدل استهلاكنا له يغوق معدل تكونه عبر ملايين السنين.

How to Reduce the Burning of Fossil Fuel:

- Walking or driving a bike instead of driving cars.
 - المشى وركوب الدراجات بدلًا من ركوب السيارات.
- Using public transportation.
- استخدام وسائل النــقـل العامة.
- >>> Turning off electric bulbs and electric devices if we don't need them.
- إطفاء المصابيح والأجهزة في حالة عدم الحاجة لها.







- The chemical structure of water and petroleum is <u>different</u>.
 - 🧨 يختلف التركيب الكيميائي للماء عن الوقود.

Petroleum:

- Scientists believe that petroleum is formed from the decomposition of old marine organisms called <u>diatom algae</u>.
 - پعتقد العلماء أن سبب تكون البترول هو تحلل مخلوقات بحرية قديمة تسمى طحالب الدياتوم.

Diatom Algae:

- >> They are very tiny organisms, smaller than the head of a pin.
- They fall to the bottom of the oceans after death.
- They are covered by layers of rocks and sediments.
- Over millions of years, these remains are transformed by high
 - temperature and pressure into petroleum oil.
 - 🤏 هي كانفات دقيقة جدًا لا يزيد حجمها عن رأس الدبوس، تستقر بعد موتها في قساع المحيط، وتغطسي بطبقات من الصخور والرمال.
 - ◄ تتحول تلك البقايا بفعل الضغط والحرارة إلى النفط.



Water:

- >> Water is a renewable source of energy. CR
 - Because it is available and hasn't been run out yet.

How to Reduce the Water Consumption:

- We must use water carefully, don't waste it or pollute it.
 -) بجب علينا استخدام الماء بحرص وعدم اهداره أو تلويثه.
- Growing plants don't require large amounts of water.

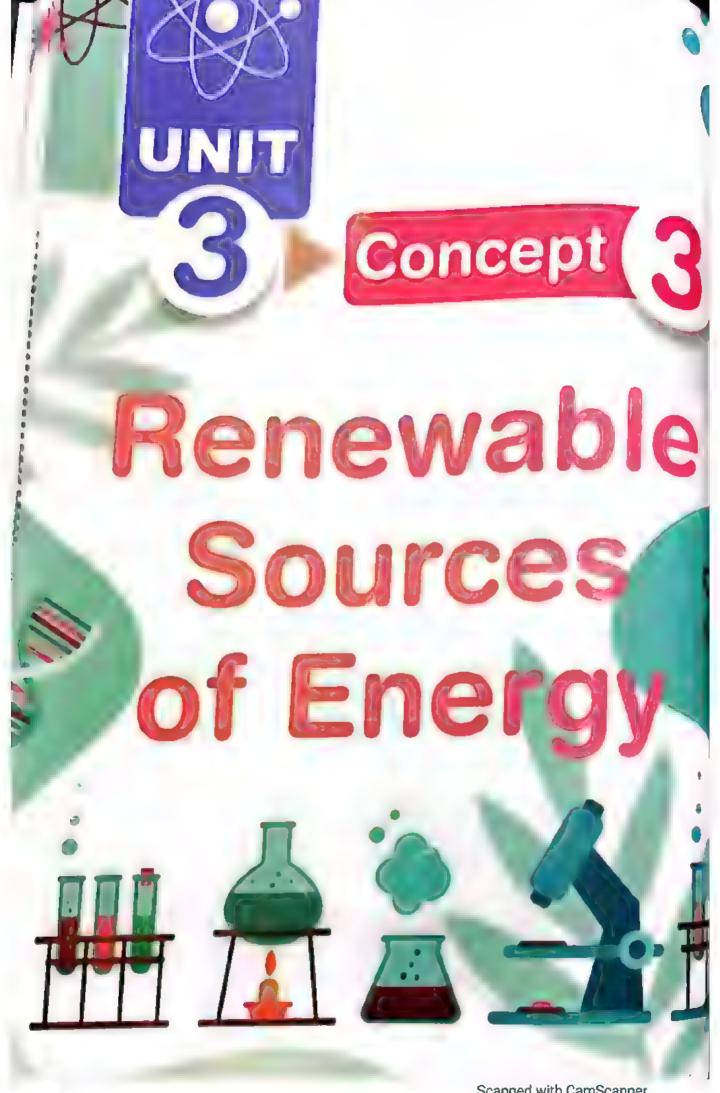
زراعة النباتات التي لا تحتاج إلى ري بكميات كبيرة.

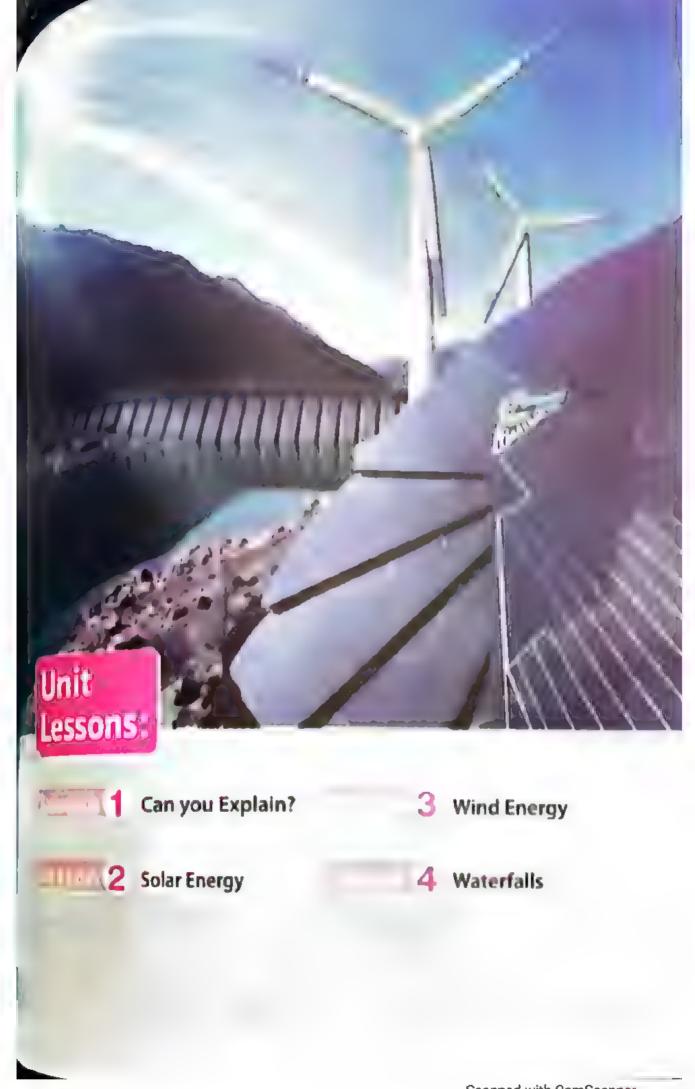






	Complete the following:
	Petroleum oil is a source of energy.
	Petroleum is formed from the decomposition of
	The rate of our consumption of petroleum oil the rate of its formation through millions of years.
3	Put (/) or (X):
	Water is a non-renewable source of energy.
	② The chemical structure of water and petroleum is different.(
	The amount of fossil fuel on Earth Is limited. (
	• We must light up electric bulbs and electric devices if we don't
	need them.
3	How do we reduce burning of fossil fuel?
	AND THE PERSONNEL AND THE PERSON A COURS OF THE PERSONNEL AND THE
	FIGURE 1 THE STREET OF STREET OF STREET STREET, STREET STREET STREET, STREET STREET, S
	constituence to the second of constituence of the file
4	How do we reduce consumption of water?
	, e on thurster that see the state could reserve the time source sufficiency industries continued
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	**** ************************ * 37 /**** * ***** * *\$ ***** * * * ********







الشرح؟ (Can you Explain?

Renewable Sources of Energy: مصادر الطامة المتحددة

>> The energy that will not run out faster than us consuming it.

الطاقة التي لن تنفد بصورة أسرع من استهلاكنا لها. ي هي الطاقة









They are used to generate electricity.

- >> People use machines. GR
 - To make their life easier and get tasks done faster.



Colar Panets: Automil algily

They are used to light up street bulbs in cities.



"Muchiell

Wind moves the windmill blades,

معدوك الوقاح سندرات العقاهوية الهواية



. The internal parts of a mill move and grind grains.

تتحرك الأجزاء الداخلية للطاحونة الهرائية وتطحن الحبوب لصناعة الخبن

The second

Water moves the watermill blades.

ممرك أبرت ح سكرات الطاموية المامدة،



 Kinetic energy transfers to another windmill and it grinds grains.

تنتثل طائله الحركة للطاحونة الهوائية فتطحن الحبوب

- The number of blades in a modern windmill is less than the old windmills.
 - 🧨 عدد شفرات الطاحونة الجديثة أقل من القديمة.
- a Amodern windmill is taller than an old windmill.

الطاحونة الحديثة أطول من الطاحونة القديمة.

Modern windmills are used in:

Old windmills are used in:

Importance: Low cost and they work without electricity.

- Any device needs a source of energy to be operated.
- >> The source of energy may be renewable or non-renewable.

Device	Figure	Source of Energy	(Oyg.
1 Flashlight		Battery	Non-renewabl
2 Petroleum oven		Petroleum	Non-renewable
Gas oven		Natural gas	Non-renewable
4 Fireplace		Coal	Non-renewable
Electric heater		Electricity	Renewable
Solar heater		Solar	Renewable



•	fill in the gap	s using the following	words:
I	(grains - ta	iller – shorter – more – le: : oven – gas oven – petro	ss – solar oven –
			d on renewable sources of
١		anddepend	on non-renewable sources
	_	of blades in a modern wir lmills.	ndmill is . than
	A modern w	indmill istha	n an old windmill.
		e used to grind	
2	What is mean	it by:	
	_ Renewable So	urces of Energy:	
	gの出する中になるので、・・のできませる 出りの目的なりの中でも	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	***************************************
			هسي ده دید د میرد د میرد ده د مید د
3	Complete the	following table:	
	Device	Energy Source	Energy Source Type
	Flashlight	@14944(4V40 7	\$v4}\$4481AB18040144B148118794444444544544444444
	Fireplace	#100001PH64204101441PH4826400446PH7841F41F4H646664405	######################################

Electric heater

Solar heater



Solar Energy

The Sun:

Structure of the Sun نرکیب الشمس

>> Sun surface isn't solid as the Moon.

ع سلح الشمس نبس صلبا مثل سطح القمر.

- Sun consists of different gases, such as hydrogen and laten.
 - م يمنوي الشمس على العديد من الغازات كالهيدر وحان والهيليوم،
- >> The surface of the Sun is called "photosphere".

» بطلق على سطح الشمس «الغلاف الضوئي»،

الغلاف الضوئم للشمس :Photosphere

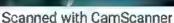
- It is a gas region at the edge of the Sun that emits light and heat.
 - هى منطقة الغازات الموجودة على سطح الشمس والتي ينبعث منها الضوء والحرارة.



Importance of the Sun:

- 1 Sun provides us with light and heat
- 2 Plants need sunlight to grow.







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What will happen when:

Absence of the Sun (without Sun).

- 1 Plants will wither and die.
 - 2 Animals that feed on plants will die,
 - 3 Life disappears on the earth.
 - "تموت الحيوانات التي تتغذى على النباتات.



- 🧨 تذبل النباتات وتموت.
- 🧨 تختفي الحياة على الأرض.

2 If you look directly to the sun for a long time.

your eyes will be damaged.





How does the Sun produce heat energy? كيف تنتح الشمس طاقة حرارية؟

Sun is a star that consists of different gases, such as hydrogen and helium. الشمس نجم يحتوى على العديد من الغازات كالهيدروجين والهيليوم.

)) When hydrogen reacts with helium, a great amount of energy is produced. 🧨 عندما يتفاعل غازا الهيدروجين والهيليوم ينتج منهما طاقة عالية.

)) Heat and light energies transfer through space in the form of waves to reach Earth.

>> تنتقل الطاقة الحرارية والضوئية من الفضاء للأرض على شكل موحات.

Sunrays are called radiant energy (radioactivity). يطلق على أشعة الشمس: الاشعاع أو الطاقة الاشعاعية

>> We feel the warmth of the sun at night. @()

 Because the atmosphere envelope, water and soil absorb heat energy from the sun.

يُفعر بدق الشمس خلال الليل. وي ينفلاف الجوي والمام والترب

و إن الغلاف الجوى والمباه والتربة يمتصون الحرارة من الشمس،



á	Complete the following:
	Sun provides us with and energies,
	Without the Sun, plants
	Sunrays are called
	The Sun consists of different gases, such as
	The surface of the Sun is called
2	What will happen when:
	1 You look directly to the sun.
	tras (espas)(freescribbilis) prisequis subsequintelle subsequences prisequistisses (archestrequistisses archester) parafic
	Absence of the Sun.
	\$4.3. val(\$15.40)41.17.40(41.1
3	What is meant by:
	- Photosphere:
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الطاقة الشمسية Solar Energy

Solar Energy

It is the energy produced from the Sun.

Importance of Solar Energy:

1)(-1,-1

planting inside greenhouses.

الزراعة مُم الصوب الزراعية

It helps farmers in planting crops that need hot weather in winter.

تساعد المزارعين على زراعة محاصيل تحتاج مناخ دافئ في فصل الشتاء.



-)) It allows the sun rays to pass through it.
- 3) The heat energy of the sun warms the internal part of the greenhouse.
 - تسمح الشعة الشمس بالرور من خلالها.
 - تعمل الطاقة الحرارية للشمس على تدفئة الجزء الداخل من الصوبة.











ندمنه المنازل .Warming houses

By placing large windows on the walls that face the sun.

> 🧨 بوضع نوافذ كبيرة على الحوائط المواجهة للشمسء





4 Cooking.

الطها

- >>> Curved mirrors are used to direct the sunrays towards the cooking pans.
 - ٧٧ تستخدم المرايسا المنحنية لتوجيه أشعة الشمس لأوانسي الطهي لطهى الطعام.





5 Heating water.

- A solar heater is placed at the top of buildings.
- The water is heated when it passes through its tube.
- >> The hot water is stored in a hot water tank.





- توضع الألواح الشمسية على أسطح المنازل،
- 🕊 يتم تسخين الماء من خلال مروره بتلك الأنابيب.
 - 🕔 يتم تخزين الماء في خزان ماء ساخن،

الألواح الشمسية - Falar Panels

Structure:

A solar panel consists >>> It changes solar of a large number of small solar cells.

dea:

energy into electric or heat energies.

Importance:

- It is used in generating electricity for lighting houses & streets.
- It stores electric energy in the batteries.



Calculators:

They consist of batteries provided by small solar cells.

۱۳ تتكون من بطاريات مزودة بخلايا شمسية صغيرة.

Science Prim. 4 - Second Torm 77







1	C	omplete the following:	
	0	is the energy produced from the	e Sun.
	2	helps farmers in planting crops the	nat need h
		in winter.	
	6	The output energies in solar panels are	&
	0	The input energy in calculators is	•
	(5)	Solar panels consist of	
2		hat is meant by:	
	•	Solar Energy:	
		· · · · · · · · · · · · · · · · · · ·	
	2	Solar Panels:	
	• • •	• • • • • • • • • • • • • • • • • • • •	

Greenhouse:





Wind Energy

طاقة الرياح



تدفئ الشمس الكرة الأرضية و الرياح،

Solar energy causes air movements and wind blowing.

>> نتسبب الطاقة الشمسية في حركة الهواء وهبوب الرياح.

>> The wind rotates the blades of windmills.

🌿 قوم الرياح بتدوير شفرات الطواحين الهوائية.

>> The dynamo changes kinetic energy into electric energy.

₹ يقوم الدينامو بتحويل الطاقة الحركية إلى طاقة كهربية.

Electric energy transfers through huge wires towards cities to light houses and streets.

تنتقل الكهرباء عن طريق أسلاك ضخمة إلى المدن لإنارة المنازل والشوارع.



Lighting houses and streets



How to Design an Effective Turbine:

وبنا تصمم توربينًا فعالًا؟



- >> The blades of the windmill must be light, tall and curved.
- >> It is better to decrease the number of the blades of the turbine For example: 3 blades are better than 4 blades.
 -)) لاد أر تكون شعرات التوربين خفيفة الوزن وطويلة ومتحنية.
 - کلما قل عدد شفرات التوربین کانت کفاهته أفضل.



Put (√) or (X):

- The wind rotates the blades of windmills.
- A dynamo changes electric energy into kinetic energy.
- 1 It is better to increase the number of blades of a turbine.
- The blades of windmills must be light and short.

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Waterfalls

When the water of rivers falls from high slopes:

potential energy is converted into kinetic
energy.

عند سقوط مياه الأنهار من أعلى المنحدرات:

و تتحول طاقة الوضع المختزنة في المياه إلى طاقة دردة



Scanned with CamScanner



The dams stop the flow of water, which increases the gravitational potential energy.

المناف المناف سريان المياه مما يؤدى لزيادة طاقة الوضع المختزنة في المياه.

When water becomes free, it falls on the blades of the turbines, so they rotate.

الله عند السماح للمياه بالمرور خلال السد، تسقط المياه على شفرات التوربينات مما يؤدى لحركتها.

The dynamo changes the kinetic energy of the turbines into electric energy.

ا) بقرم الدینامو بتحویل ملاقة حرکة التوربینات إلى طاقة کهربیة.

Electricity transfers to cities through huge and long wires to light houses. المدن عن طريق أسلاك عملاقة وطويلة وذلك لإنارة المنازل.



Waterfalls

Gent in raining Electricia,

Using wind

Generating Electricity

Using waterfalls

Used in windy areas

تستخدم في المناطق عاصفة الرياح

Generating Electricity

Clean Sources

Renewable sources

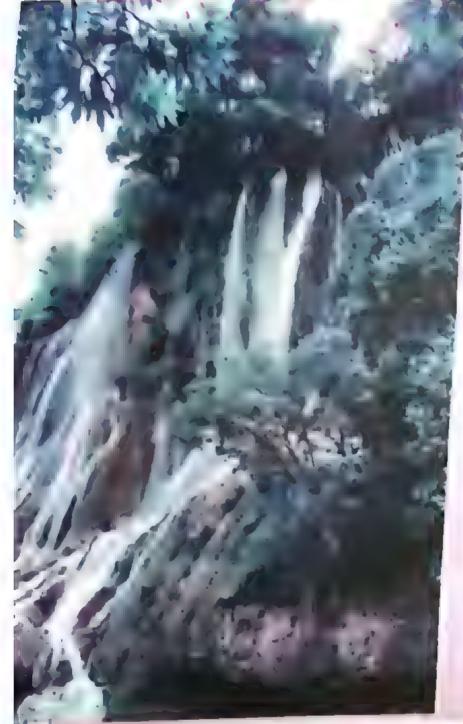
Used in dams & rivers

> تستخدم في الأنهار والسدود



- Complete the following:
 - When water falls from a slope, its changes to
 - energy of water. Dams increase the ...
 - When water becomes free, it falls on
 - 1 The dynamo changes the energy of the turbines into energy.

Project



Water as a Source of Energy

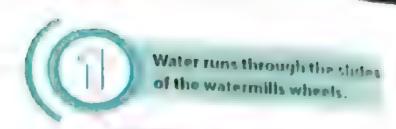
The great amount of water running in rivers or falling from waterfalls can be used to move watermills to generate energy.

الكمية الهائلة من الماء المتدفق عبر الأنهار وأعلى الشلالات يمكن استخدامها لتحريك طواحين الماء وتوليد الطاقة.

الحامه الكساب الله Hydroelectric Energy

It is the force of moving water to rotate a huge turbine to generate electricity.

🐠 هي قوة تحريك المياه لتدوير توربين كبير لتوليد الكهرباء.



How it works:

The wheel of the watermill rotates.

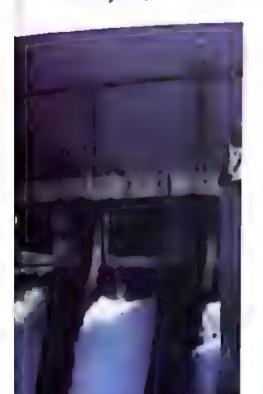


Energy is produced and it is used to move devices.

- پتدفق الماء من خلال الشرائح الموجودة على عجلة طواحين المياه فتدور العجلة وتنتج الطاقة التي تستخدم في تحريك الآلات والمعدات.
 - How could scientists & engineers make use of the water force وكيم العلماء والعشيد بيلون ليستير مون العلم

By building dams. To make use of the running water.

By a system which stores the energy of the moving water.



عن طريق بناء السدود لتسخير تدفق مياه (د الأنهار خلال نظام يخزن المياه المتحركة.

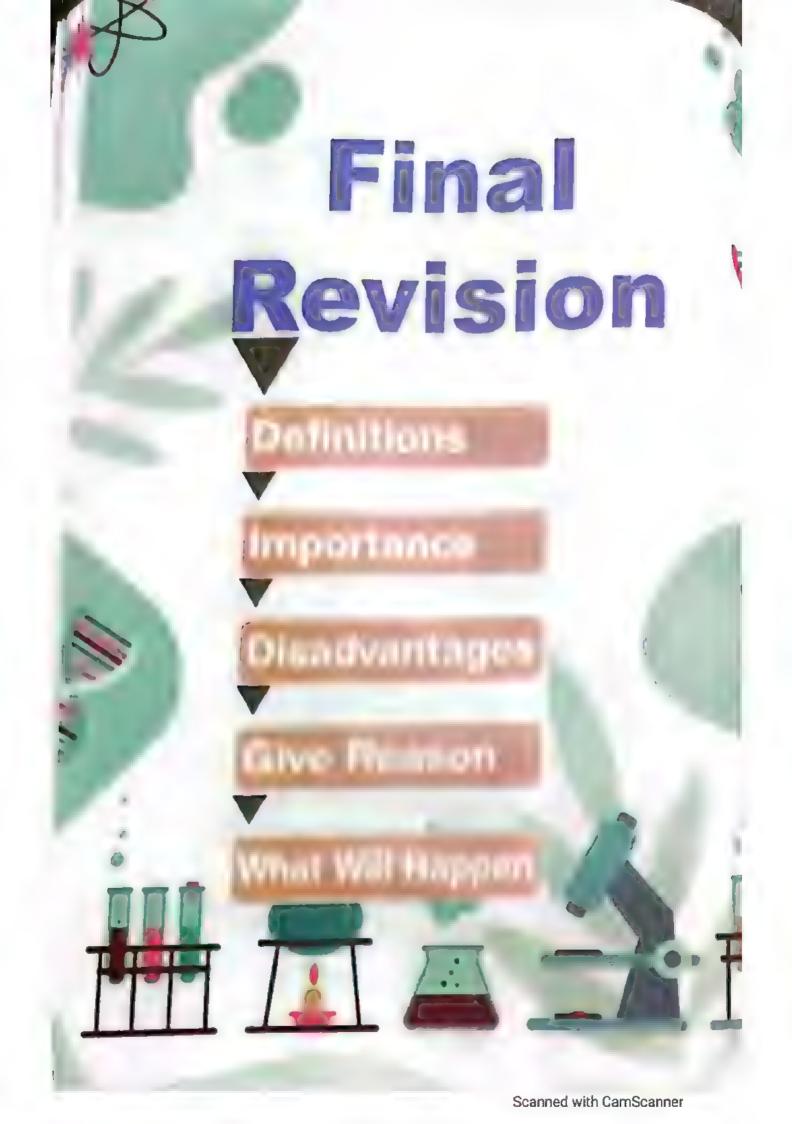
Advantage of Dams

Dams can generate clean energy. تولد السدود الكثير من الطاقة النظيفة.

Disadvantage of Dams

Dams affect the ecosystem when the water path changes.

تؤثر في النظام البيئي وذلك لتغير مسار المياه،



pefinitions

Heitili Cooppt D Leuron H

Fuel-powered

They are cars that need gas stations and not a continued on the changes

Electric cars

COS

They are cars that have patterned that him one of the charged.

Solar cars

They are card operated by solar energy and they don't need fuel or electricity.

Unit@ Concept @

Wrecking ball

It is a heavy steel ball swinging on a case and in a used to knock down parts of buildings

Seatbelt

A safety equipment in cars which is used to keep the driver body from moving forward during so is on.

Airbag

A safety equipment in cars that absorbs the energy of the car during collision.

Collision

It is the moment of the crash of two objects together

Electric lamp

A device used to light houses and it changes the electric energy into light and heat energies.

Electric iron

A device used to iron clothes and it changes electric energy into heat energy.



Electric heater	A device used in warming houses and it changes the electric energy into heat energy.
Cellular phone	A device used to make calls and it changes electric energy into sound and light energies.
Radio	A device that changes electric energy into sound energy.
TV	A device used to transfer sound and image and it changes electric energy into light and sound energies.
Solar cell	A device that changes solar energy into electric energ
Solar heater	A device that changes solar energy into heat energy
Hair dryer	A device used for drying the hair and it changes electric energy into heat, kinetic and sound energies
Washing machine	A device used to wash clothes and it changes electricenergy into kinetic energy.
Motor engine	A device used to move things and it changes the electric energy into kinetic energy.
Dynamo	A device used to generate electricity and it changes the kinetic energy into electric energy.
Bike	A device used for transporting and it changes the chemical energy inside the human body into kinetic energy.
Fan	A device used for moving air and it changes the electric energy into kinetic energy.

Small watch	A device used for knowing time and it changes the chemical energy into kinetic energy.
Law of Conservation of Energy	Energy is neither created nor destroyed but it changes from one form to another.
Ecologist	They check the flow of energy through food networks in the ecosystem.
Engineers	They design solutions for problems, such as how the mobile screen obtains the light energy.
Blofuel	It is the fuel that is made from the living organisms that can be grown (planted).
Fossil fuel	It is the fuel resulting from the decomposition of the living organisms remains that lived on the earth millions of years ago.
Diatom algae	They are very tlny organisms, smaller than the head of a pin and they were transformed by high temperature and pressure into petroleum oil.
Renewable source of energy	It is the energy that will not run out faster than us consuming it.
Non-renewable source of energy	It is the energy that will run out faster than us consuming it.
Photosphere	It is a gas region at the edge of the Sun that emits light and heat.

Final Revision

Solar energy	It is the energy produced from the sun.
Greenhouse	It helps farmers in planting crops that need hot weather in winter.
Solar panels	They consist of a large number of small solar cells. It changes solar energy into electric or heat energies.
Hydroelectric energy	It is the force of moving water to rotate a huge turbine to generate electricity.

Importance

Unit (2) Comagni (3) Lesson (6)

Fuel-powered cars	The amount of energy produced by the fuel is high.
Electric cars	They don't cause climate changes.
	They don't need fuel or electricity.
Solar cars	They don't cause climate changes.
The	They are light in weight.

Unit@ Concept 4

Wrecking ball	It is used to knock down parts of buildings.
Seatbelt	It is used to keep the driver body from moving forward during collision.
Airbag	 It slows the speed of the driver when his body moves forward. It absorbs the energy of the car during collision.



Unit (3) Commerce (1)

Curiosity Robot	One of the most famous robots that used to explore mary
Hair dryer	It is used for drying the hair.
Washing machine	It is used for washing clothes.
Electric bulb (lamp)	It is used to light up houses.
Dynamo	It is used to operate electricity.
Motor	It is used to move things.
Mobile phone	It is used to make calls.
Electric iron	It is used to iron clothes.
TV	It is used to transfer sound and image
Fan	It is used for moving the air.
Small watch	It is used for knowing time.

Unit 3 Concept 2

Fossil fuel	Lighting houses, warming clothes, cooking and operating cars.
Biofuel	It is a renewable source of energy
Fuel	It is used to operate cars.
Grass, corn and wood chips	They are used to produce ethanol.

Wood	It is used to produce charcoal.
Diatom algae	Over millions of years, these remains are transformed by high temperature and pressure into petroleum oil.

Unit(3) Concept (3)

Machines	To make human life easier and get tasks done faster.
Solar panels	They are used in generating electricity for lighting houses.
	2. They store electric energy in the batteries.
Windmill	The internal parts of a mill move and grind grains.
Photosphere	It emits light and heat.
Sun	1. Sun provides us with light and heat.
Sun ,	2. Plants need sunlight to grow up.
Solar energy	1. Planting inside greenhouse.
	2. Operating irrigation machines.
	3. Warming houses.
	4. Cooking.
	5. Heating water.
Dams	They can generate clean energy.
Hydroelectric	It is the force of the moving water to rotate a huge
energy .	turbine to generate electricity.

Disadvantages



Fuel-powered cars	They cause climate changes.
Electric cars	They have batteries that must be charged.
Solar cars	The amount of energy it gets from the sun is smaller than what we get from gasoline or electricity.



Fossil fuel	1. Air pollution. 2. Global warming.
Biofuel	To get it, it requires: 1. Cutting trees. 2. Removal of forests.
Dams	They affect the ecosystem when the water path changes.

Give Reason

- 1. Fuel-powered cars have some disadvantages.
 - Because they cause air pollution and climate changes.
- 2. Electric cars have some disadvantages.
 - Because they have batteries that must be charged.
- 3. Solar cars have some disadvantages.
 - The amount of energy a solar car gets from the sun is less than what we get from gasoline or electricity.
- 4. Mechanical engineers designed solar vehicles that are light in weight.
 - To make these vehicles consume less amount of energy
- 5. During collision, a truck causes more damage to the car.
 - Because the truck is a heavy object that has more energy than the car.
- 6. During collision, a fast car causes more damage to the slow car.
 - Because the fast car has more energy than the slow car.
- 7. Construction workers use a wrecking ball.
 - To knock down parts of buildings.
- 8. If the player uses a bat to hit the tennis ball, the speed of the ball will increase in different directions.
 - Because the energy transfers from the bat to the tennis ball.
- 9. Modern cars are provided with a seat belt.
 - To keep the driver's body from moving forward during collision.





- 10. Modern cars are provided with an alrbag.
 - It slows the speed of the driver when his body moves forward.
 - 2. It absorbs the energy of the car during collision.
- 11. When a boy runs fast and hits a traffic sign, he stops moving and the traffic sign vibrates.
 - Because the kinetic energy transfers from the boy to the traffic sign, \S_0 , the traffic sign may vibrate.
- 12. During collision between two moving objects, we hear the sound of crashing.
 - A part of the kinetic energy changes to sound energy during collision.
- 13. A crash investigator uses all scientific laws of motion, force & energy.
 - To solve the puzzle of the collision between two objects.
- 14. A crash investigator asks the two drivers about the collision.
 - To know who caused the accident.
- 15. A crash investigator uses photos & videos.
 - To collect all the needed information about the accident.
- 16. A spacecraft needs more than 6 months to arrive on Mars.
 - Because the distance between Earth & Mars is 54 millions km.
- 17. Humans send robots which are operated by remote controls to Mars.
 - To explore Mars.
- 18. It is difficult to obtain electricity to operate a robot.
 - 1. The robot is very far from any plug, electric charge or markets.
 - 2. It is impossible to connect the charger to the rocket plugs.

- 19. Any energy chain starts with the Sun,
 - . Because the Sun is the main source of energy.
- 20. Energy is saved.
 - Energy is neither created nor destroyed but it changes from one form to another.
- 21. When you touch an electric lamp, you feel hot.
 - . Because electric energy changes into light and heat energies.
- 22. Ecologists check the flow of energy through food networks in the ecosystem.
 - Because any change in the flow of energy affects living organisms.
- 23. Biofuel is a renewable source of energy.
 - Because it is renewed with the continuous growth of plants.
- 24. Biofuel has a negative effect on the environment.
 - To get it, it requires cutting trees & the removal of forests.
- 25. Fossil fuel is a non-renewable source of energy.
 - Because it starts to run out as soon as we use it. Also, the rate of our consumption exceeds the rate of its formation.
- 26. The amount of fossil fuel on the earth is limited.
 - Because the rate of our consumption exceeds the rate of its formation through millions of years.
- 27. Fossil fuel has a negative effect on the environment.
 - Burning the fossil fuel produces gases that cause air pollution & global warming.
- 28. Walking or driving a bike is better than driving cars.
 - To reduce the amount of burning fossil fuel.

Final:Russ

- 29. Water is a renewable source of energy.
 - Because it is available and hasn't been run out yet.
- 30. We must use water carefully don't waste it or poliute it.
 - To reduce the consumption of water.
- - Because solar energy is the energy that will not run out faster than consuming it.
- 32. People use machines.
 - To make their life easier and get tasks done faster.
- 33. Sun surface isn't solid as the Moon.
 - Because the Sun consists of different gases, such as hydrogen and helium.
- 34. Sun is very important for all the unit of a survivas.
 - Sun provides us with light and heat.
 - 2. Plants need sunlight to grow up.
- 35. We feel the warmth of the contract
 - Because the atmosphere envelope, water and soil absorb heat energy from the sun.
- 36. Greenhouse help farmers in the original field.
 - Because it helps farmers in planting crops that need hot weather in winter.
- 37. Placing large windows on the wall that faces the sun.
 - For warming houses.
- 38. Curved mirrors are used in salar ovens.
 - To direct the sunrays towards the cooking pans to cook food faster.

- 10. Solar heater is placed at the top of buildings.
- , To heat the water when it passes through its tube, then it is stored in a hot water tank
- 40. Solar panels are used in generating electricity for lighting houses & streets.
 - , Because they change solar energy into electric or heat energies.
- 41. Sun is the main source in generating electricity by wind energy
 - , Because the sun warms the earth and the wind. So, solar energy causes air movements and wind blowing and the wind rotates the blades of the windmill.
- 42. Dams are used in generating hydroelectric energy
 - . The dams stop the flow of water which increases the gravitational potential energy.

What Will Happen

- 1. Mechanical engineers destanced solar welds be fluid are heavy in welgh
 - They will consume a high amount of energy.
- 2. A truck hlts a cm.
 - The truck will cause more damage to the car because the energy y collision transfers from the truck to the car.
- 3. A fast car hits a slow car.
 - The fast car will cause more damage to the slow car because the a_{liniq} of collision transfers from the fast car to the slow car,
- 4. The player uses a bat to lit the tennis ball.
 - The speed of the ball will increase in different directions,
- 5. During and after collision (concerning the alrhay).
 - During collision: The air bag inflates automatically.

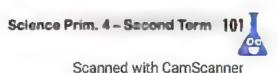
After collision: The air bag deflates fast, so the driver can get out of the la

- 6. Two cars collide together.
 - a. Energy transfer occurs.

b. Energy changes occur.

- 7. When a boy runs fast and hits a traffic sign.
 - The boy stops moving forward and he may get injured and the trafk
 sign may vibrate.
- 8. Two cars moving in the same direction collide together.
 - · Damage will be less severe,

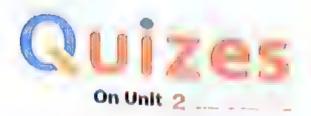
- 9. Two cars moving in the opposite directions collide together,
 - . Damage will be more severe.
- 10. Habike moving with a high speed hits a person.
 - . The person may get injured only and he/she will survive.
- 11. If a car moving with a high speed hits a person.
 - . The person's life may be in danger.
- 12. The height (angle) of the ramp increases (concerning the moving object on it).
 - The speed of the moving object increases.
- 13. A big ball and a small ball sliding on a ramp.
 - · The big ball falls faster than the small ball.
- 14. When the ball in Newton's cradle is raised up.
 - The ball stores potential energy and doesn't contain any kinetic energy.
- 15. When you leave the ball of Newton's cradle to fall.
 - The potential energy decreases gradually and is converted into kinetic energy.
- 16. When the ball of Newton's cradle hits the 1st ball next to it.
 - · The kinetic energy is transferred to the next ball, then to the rest of the balls.
- 17. When batteries run out.
 - Devices stop, so we must charge it or exchange it.
- 18. On driving a bike.
 - 1. Chemical energy stored in the human body changes into kinetic energy.
 - 2. A part of the kinetic energy changes to heat energy due to the friction between the wheels of the bike and the road.





- 19. Firel burns inside the car engine.
 - The car engine rotates the wheels of the car.
- 20. Wind moves the windmill blades.
 - The internal parts of the mill move and grind the grains,
- 21. Water moves the watermill blades.
 - Kinetic energy transfers to another windmill and grind the grains,
- 22. Absence of the Sun (Without the Sun).
 - 1. Plants will wither and die.
 - 2. Animals that feed on plants will die.
 - 3. Life disappears on the earth.
- 23. If you look directly to the sun for a long time.
 - · Your eyes will be damaged.
- 24. When the water of rivers falls from high slopes.
 - Potential energy is converted into kinetic energy.

Contents



5-18

Quizes

On Unit 3

19-77



78-105



Scanned with CamScanner

Unit (3) Concept (1) Lesson (1)

Choose the correct answer:

CI	100se si	energy.
0	An electric lamp change	b. light energy
•	a. sound energy	d. solar energy
	c. kinetic energy	es electric energy into heat energy.
2	Hie warm	b. radio
	a. electric iron	d cellular phone
	c.TV	es electric energy Into light and sound
3		es elective over 27
	energies.	b. TV
	a. cellular phone	d. a & b
	c. radio	ed from all the following devices, except
4		
	a. cellular phone	b. TV
	c. radio	d. electric iron
6		ed from all the following devices, except
Ð	the	
	a. cellular phone	b.TV
	c. radio	d. electric lamp
6	Solar cells change solar	energy into
	a. electric energy	b. heat energy
	c. sound energy	d. kinetic energy

7	produc	e electric au
	a. Electric irons	
	c. Solar cells	b. Electric heaters
8	CORCUE	d. Motors
	a. Solar cells	
	c. Solar heaters	b. Batteries
9		d. Cellular phones
•	rieat energy is	in the solar heater,
	Tr counding	b. produced
	c. lost	d. destroyed
•	Electric energy is	in the electric heater.
		b. produced
	c. lost	al al .
1	All these devices con	sume electric energy, except the
	 a. cellular phone 	b. solar cell
	c. radio	d. TV
1	Thecon	tains chemical energy.
	a. solar heater	b. battery
	c. radio	d. TV
13	Calculators can be op	perated by using
	a. solar energy	b. electric energy
	c. heat energy	d. sound energy
14	A gas oven can be on	erated by using
	a. solar energy	
	c. heat energy	b. electric energy
13		d. natural gas operated by electricity.
	a. TV	The state of the s
	c. radio	b. electric heater
		d. all the following



O	The distance between	Earth and M	lars is	millem	
	kilometers.				
	a.54	b.55			
	c. 44	d. 45			
(T)	Curiosity is the most fan	nous	on Mars.		
	a.application	b. space	craft		
	c. robot	d.rocket			
B	Robots and vehicles are	operated by	•		
100	a. electric chargers	b.long-t	erm batteries		
	c. solar panels	d. b&c			
Pu	t (/) or (X):				
0	Energy can't be changed	d from one f	orm to another.	()
0	Electric lamps consume	electric ene	rgy.	()
U	Solar energy is the energy	av consume	d in solar cells.	()
5	TV and cellular phones i	produce ligh	nt energy.	()
0				(,
5	TV and radios consume			colle (,
6	Solar energy is converte		ric energy in solar	censit	
7	Batteries produce chem	ical energy.		(
8	Calculators can be oper	ated by usin	g solar energy.	(
9	Curiosity Robot is one o			Mars.(
1	Robots obtain electricit				

chargers.



[8] Fill in the gaps using the following words:

(electric – heat – chemical – consumed – produced – TV – Solar cells)

	-	10444				
0	р	roduce elec	tric energy.			
0	The	produce	s sound energy	y.		
0	Solar energy is	the energy	i	n solar ce	lls.	
0	Electric energy	is the energ	ЭУ	in solar	cells.	
6	Electric Irons	consume		energy	and	produce
	е	nergy.				·
6	The devices cor	ntain batter	ies that contai	n	6	energy.
4 Wr	ite the scien	tific term				
0	Energy produce	ed from sola	ar cells.		(
0	Energy consum	ed by solar	heaters.		(,
3	A device that	changes	electric energ	gy into s	sound	enerov
					(3).
0	A device that	changes	electric ene	rgy into	heat	energy.
					()
(3) A	device that	changes	solar energy	into el	ectric	energy,
					(
6 A	device that ch	anges sola	energy into h	neat energ	зу.	
					(}
7 TI	hey contain ch	emical en	ergy that cha	nges to e	electric	: energy.
					(

	1100	unbiere rue tottomius:
	1	and produce sound energy.
	2	andproduce light energy.
	0	Electric energy is in cellular phones while it is
		in solar cells
	4	change solar energy into electric energy.
	3	Cellular phones change energy into and
		energies.
	6	change chemical energy into electric energy.
	1	Spacecrafts needs more than months to reach Mars.
	8	Vehicles on Mars change solar energy into,
		energies to operate their
		to move on Mars.
	9	Robots are very far away from any and and
	(Devices use as a source of energy.
6	Cla	ssify the following devices according to devices need
	for	solar energy or electric energy:
	(9	
	P	Devices that need electric energy
P+1		Distanted indicate his reading of the control of th



Unit (3) Concept (1) Lesson (2)

Choose the correct answer:

Energy is very important for most devices to

a. operate b. do their functions

c-move d-all the following

When batteries run out, devices

a.operate b.move

c.stop d.do their functions

Batteries store energy to operate devices.

a electric b chemical

c.heat d.kinetic

To make batteries work again, we must

a.charge it b.change it

c.burn it d.a & b

The main source of energy in all devices is the .

a.Sun b.wind

c.water falls d.coal

6 Any energy chain with the Sun.

a.ends b.stops

c.starts d.no correct answer

During running, energy stored in food changes to

kinetic energy.

a.electric b.heat

c.chemical d.sound



()	We burn trees to get	. energy.	
	a. heat	b. electric	
	c.chemical	d. sound	
()	A hair dryer changes el	ectric energy into	energy,
	a.kinetic	b. sound	
	c. heat	d. all the following	
a do	is used in ele	ectric power stations to pro	duce electricity
	a. Food	b.Coal	
	c.Water	d. No correct answer	
(.1	The input energy in mo	bile phones is (are)	
	a.electric	b.sound	
	c.light	d. b&c	
()	It is to ope	rate any device without th	ne Sun.
	a. possible	b. impossible	
	c.acceptable	d. no correct answer	
0	When you rub your hand	ds, kinetic energy changes	i to
	energy.		
	a.light	b. sound	
	c.heat	d. electric	
1	Theis used	to move things.	
	a.dynamo	b. motor	
	c.hair dryer	d. electric heater	
(b)	The is used	to obtain electricity.	
	a.dynamo	b. motor	
	c.hair dryer	d.electric heater	

9	Driving a blke changes			
	body into kinetic energ	the energy inside th y.	e hu	Tigg
	a. heat	b. chemical		·
	c. potential	d. kinetic		
•	· change ele	ectric energy into kinetic energy,		
	rans	b. Motors		
	c. Washing machines	d. All the following		
13	Motorsele	ctric energy.		
	a. consume	b. produce		
	c. lose	d. no correct answer		
1	Heat energy is			
	a. consumed	b. resulting		
	c. lost	d. destroyed		
20	Toy cars change	energy into kinetic energy.		
	a. sound	b. heat		
	c. elastic potential	d. electric		
Put	(/) or (X):			
•	Any energy chain starts w	vith the Sun	,	
			(1
_	When a battery runs out,		(}
6	Batteries store electric en	ergy.	(}
Ø	During running, chemical	energy changes to kinetic ener	qy.	
		_	(1
6	hair dryer changes electr	ic energy into heat energy only.	i	1
		ver stations to get electricity.	1	1
			(
V SI	mall watches are used to	know time.	(

	8	Kinetic energy is produced in motors.		•	ı
	9	Heat energy is resulted from dynamos.		(}
	10	Small watches consume heat energy.		(ı
3	W	rite the scientific term:			
	0	It is the energy stored in batteries.	(1
	0	The main source of energy.	()
	6	The output energy in the electric iron.	()
	0	The output energy in the small watch.	()
	6	A device used to move things.	()
	6	A device used to get electricity.	()
	0	A device used to light houses.	()
	8	A device used for drying hair.	()
	9	A device used to transfer image and sound.	()
4	Co	mplete the following:			
	0	Energy makes devices and and			
	2	Batteries store energy that is	used to	o oper	ate

	3	When batteries run out, we must	or .		
		them.	d in th	a hum	an
	4	During running, the energy store body changes to energy.	id in th	e main	all
	•	is used in electric power stations to pr	roduce e	lectrici	ty.
	5				
	6	Any energy chain starts with the			

6 Arrange the following energy chains from the start to the end:

O During running:



Chemical energy



Kinetic energy



Solar energy

In heating water:



Cutting trees



Burning wood



Solar energy

In mobile phones:



Light & sound energies



Coal



Sun



Cutting trees



Battery in mobile



Electric Power Stations



Unit (3) Concept (1) Lesson (3)

1	Choose	the	correct	answer:
---	--------	-----	---------	---------

•	During	, chemical energy changes to kinetic energy
	a. running	b. reading
	c. driving a bike	d. a & c
2	On driving a bi	ke, a part of the kinetic energy changes
		energy due to the friction between the when
	and the road.	
	a. heat	b. sound
	c. light	d. potential
3	con	vert electric energy to light energy.
	a. Fans	b. Batteries
	c. Electric bulbs	d. Bikes
4	You feelbulb.	when you approach your hand to an electri
	a. cold	b. hot
	c. happy	d. angry
3	Which of the follow	ving statements is correct?
	a. Energy can't be	changed from one form to another.
		nanged from one form to another.
	c. Energy may be lo	
	d. Energy can be cr	



	6	"Energy is saved", this is known	as the		
		a. Law of Conservation of Ener	ду		
		b. Law of Attraction Force			
		c. First Law of Newton d. S	econd Law of Newt	on	
2	Co	mplete the following:			
	0	On running, ener	gy changes to	ene	rgy.
	2	A part of the kinetic energy in a	moving car change	s to	
		due to the friction between th	e and th	e.	,
	6	Electric lamps change	energy to		
		energy.			
	4	You feelwhen you	approach your han	d to an elec	tric
		lamp.			
	5	Energy is neither r	or, but	it	
3	Wr	ite the scientific term:			
	1	A device used to light houses.		()
	2	The energy stored in food.		()
	3	The energy produced due to fi	iction.	()
	4	Energy is neither created nor of	estroyed.	()
4	Put	(/) or (X):			
	1	Energy can be changed from o	ne form to another.	()
	2	You feel cold when you appro	ach your hand to ar	electric b	ulb.
				()
	3	Electric lamps convert electric	energy to light ener	gy. ()



5	Stu	udy the opposite figure, then choose the correct answer
	0	The input energy is energy.
		(chemical – kinetic - electric)
	2	The output energy is energy.
		(chemical - kinetic- electric)
	6	As the speed of the car increases,
		its kinetic energy
		(increases – decreases – doesn't change)
	4	The driver's body move when he/she stops,
		(forward - backward - upward)
	6	The wheel of the car becomes after stopping

Mention the input and output energies of the following figure

(cold - hot - weak)

Figure	Input Energy	Output Energy
1	***************************************	
2	, prespectation and proposed control of the control	***************************************
3.	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	***************************************
4	1	######################################
5	### ##################################	***************************************



Unit (3) Concept (1) Lesson (4)

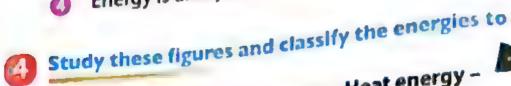
hair dryers.

		(4)	
1	Ch	oose the correct answ	er:
	0	The input energy in the h	air dryer is energy.
		a. electric	b. heat
		c. sound	d. kinetic
	2	The function of a hair dry	er is
		a. air movement	b. motor sound
		c. drying hair	d. no correct answers
	3	Heat energy is the	energy in the hair dryer.
		a. input	b. output
		c. lost	d. no correct answers
	0	Kinetic energy is the	during running.
		a. input	b. output
		c. lost	d. no correct answers
	6	The output energy in the	hair dryer is energy.
		a. light	b. sound
		c. data processing	d. all the following
	C -		
4	<u></u>	mplete the following:	
	0	The function of the hair	dryer is
	2		and energies are
		resulted in a hair dryer.	
	3	A '	and energies are
		resulted in a mobile pho	
	4	· ·	energy in mobile phones and
	-		gues and

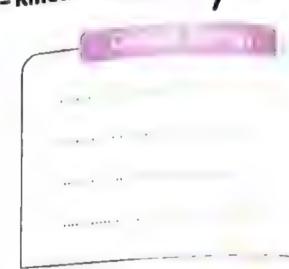


3	Put	(V)	or	(x):
---	-----	-----	----	------

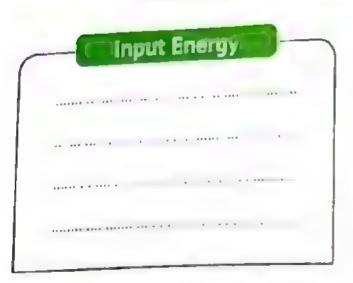
- Air movement is the function of the hair dryer.
- Kinetic energy is produced in the hair dryer.
- Data processing is the output energy in mobile phones.
- Energy is always saved and not destroyed.



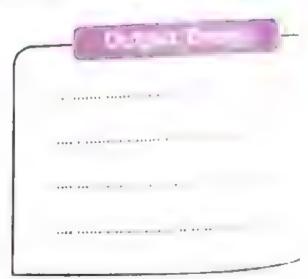
Electric energy - Heat energy -Sound energy – Kinetic energy



Electric energy - Heat energy - Light energy



input Energy





Science Prim. 4 - Second Term



Unit (3) Concept (1) Lesson (5)

Choose the correct answer:

- Ecologists study the flow of energy in difficult ecosystems, such as the
 - a. North Pole
 - b. bottom of oceans
 - c. forests
 - d. a & b
- Any change in the flow of energy in difficult ecosystems . .
 - a. causes pollution
 - b. causes climate changes
 - c. affects the living organisms
 - d. no correct answer
- design solutions for the mobile screen to obtain light energy.
 - a. Ecologists
 - **b.** Engineers
 - c. Designers
 - d. No correct answer
- - a. consume a small amount of energy in a short time
 - b. consume a small amount of energy in a long time
 - c. consume a large amount of energy in a short time
 - d. consume a large amount of energy in a long time



2 <u>v</u>	Write the scientific term:					
0	They study the flow of energy in difficult ecosystems.					
	(
0	They modify the mobile battery to last for a longer time after					
	charging It.					
3	Areas affected hardly by decreasing the flow of energy to it.					
	()					
Co	mplete the following:					
1	study the flow of energy in difficult ecosystems, and					
2	Any change in the flow of energy in difficult ecosystems affects					

3	Mobile phones consume a	3	amount	of	enerou.	:-
	atime.				chergy	H

modify the mobile battery to last for a longer time after charging it.





11	Che	Choose the correct answer:					
	0	Curiosity is the most famou	us on Mars	5,			
		a. application	b. spacecraft				
		c. robot	d. rocket				
	2	To make a battery work ag	ain, we must	it.			
		a. charge	b. change				
		c. burn	d. a & b				
	3	is used in electric	c power stations to prod	duce electricity.			
		a. Gasoline	b. Coal	•			
		c. Water	d. No correct answer				
	4	Which of the following star	tements is correct?				
		a. Energy can't be changed from one form to another.					
		b. Energy can be changed from one form to another.					
		c. Energy may be lost or destroyed.					
		d. Energy can be created.					
	5	design solutions for the mobile screen to obtain					
		light energy.					
		a. Ecologists	b. Doctors				
		c. Engineers	d. No correct answer				
2	W	rite the scientific term	•				
	0	The energy stored in food		,			
	•			()			
	2	A device used to transfer i					
	3	The energy produced due	to friction.	()			
	4	They study the flow of end	ergy in difficult ecosyste	ems.			
				(



3 9	Complete the following:	
(Energy makes devices and	
6		tuce et
•	and energies to	operate the
0	You feel when you approach your hand	d to an electri
4 Pu	it (/) or (X):	
34	Air movement is the function of the hair dryer. Any energy chain starts with the Sun. The output energy in a mobile phone is light energ. The mobile phone consume a small amount of energine.	y only.(ergy in a long
G Cor	mplete the fellowing and	()

Figure	Input Energy	Output Energy	
1 000		**************************************	
2	[450,000,000,000,000,000,000,000,000,000,	Power 22 december 2 to 10 to 1	
3	***************************************	*************	

6 What is meant by:

Law of Conservation of Energy.

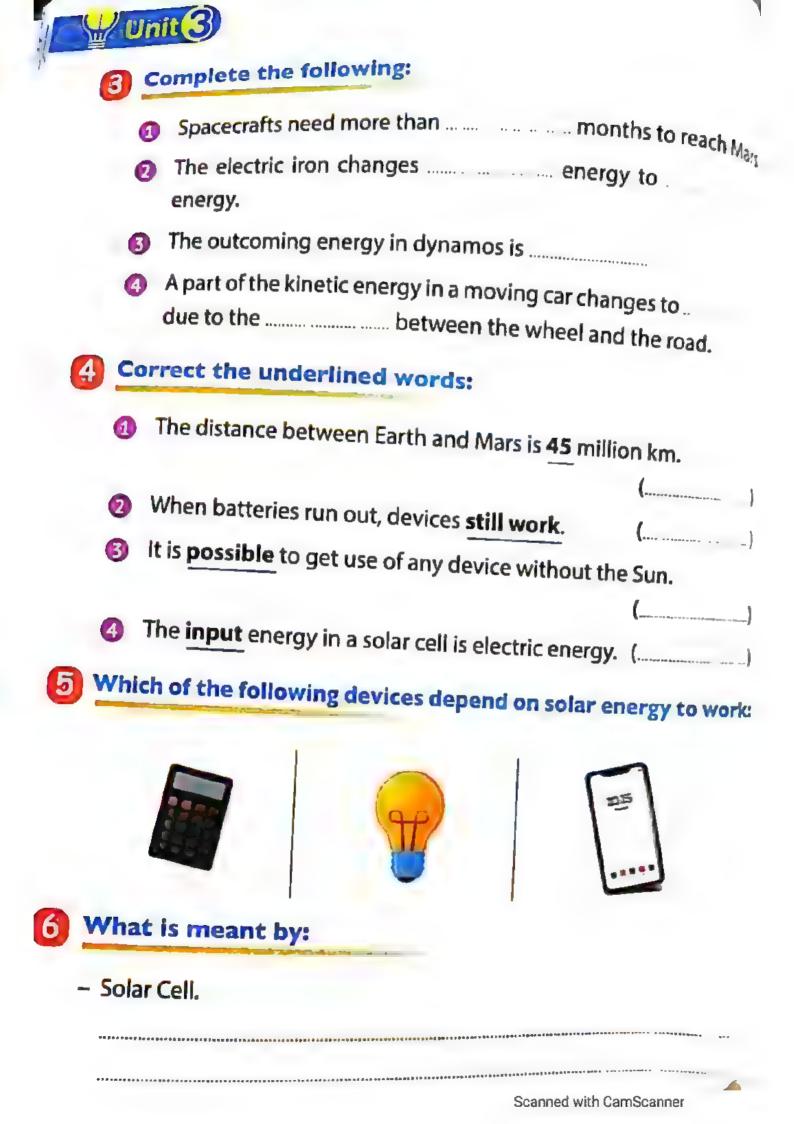




			mi is concept in	
	C	hoose the corre	ct answer:	
		Ecologists study	the flow of energy in diff	icult ecosystems, such
		as the	•	
		a. North Pole	b. bottom of oc	ceans
		c. forests	d. a & b	
	0		in solar heater	'S.
		a. consumed	b. producedd. destroyed	
		c. lost	•	avcont
	0		consume electric energy, b. radios	except
		a. solar cellsc. TV	d. mobiles	
			ges electric energy into	energy.
		a. kinetic	b. sound	
		c. heat	d. all the followi	ng
		ene	rgy is stored in trees.	
		a. Solar	b. Electric	
		c. Chemical	d. Potential	
2)	Wi	rite the scientifi	c term:	
	0	They modify the	mobile battery to last f	or longer time after
		charging it.	THOUSE BUTTER, TO TUBE	()
			created nor destroyed but	
	0.00	Energy is neutron		()
	2	The energy stored	inside batteries.	()
		Energy consumed		
	47	Thergy consumed	by a solar reacci.	()

Science Prim. 4 - Second Term 39







Unit (3) Concept (2) Lesson (1)

st	Choose	the	correct	answer
		-		

c. Petroleum

1	The main source of fuel is the				
	a.wind	b. waterfalls			
	c.sun	d.no correct answer			
2	Fossil fuel is extracted from) ,,, ,			
	a. mountains	b. forests			
	c.rivers	d. underground			
8	Vehicles need	. to move.			
	a.food	b.fuel			
	c.water	d. no correct answer			
	is (are) from t	he importance of fuel.			
	a. Operating cars	b. Generating electricity			
	c.Warming houses	_			
5	When the fuel inside the ca	ar runs out, the car			
	a. stops	b. moves			
	c.a & b	d.no correct answer			
6	The wheels of the car rota	ite when the fuel inside the car			
	************ *********** B				
	a.runs out	b. ends			
	c.burns	d.no correct answer			
0	is (are) from t	he examples of fossil fuel.			
	a.Coal	b. Natural gas			

d. All of the previous



2	Co	right the and rimed wor	10.	
	0	Any energy chain ends with the	ie Sun	
	0	Fossil fuels are extracted from	mounta	ins
	0	When fuel burns inside a car,	the carst	(1)
	0	When fuel runs out, the car m	oves.	
	0	Petroleum is an example of b	ofuel.	
3	Co	mplete the following:		
	0	Any energy chain starts with t	he	
	2	fossil fuel.	nd	are examples of
	8	The wheels of the car engine.	whe	infullburn ins talkace
	0	The car stops, when the fuel		
	9	of fossil fuel.		are from the importance
4	W	nte the scientific term:		
	0	It burns inside the car engine	to make 1	he car move
	0	The main source of fuel.		
5	W	hat is the importance of:		1
	0	Fossil fuel.		
	2	Fuel.		



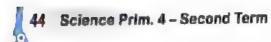
Unit (3) Concept (2) Lesson (2)

Choose the correct answer:

_	THE RESERVE TO THE PARTY OF THE		
	Burning fuel produces .	energy.	
U	a, electric	b. kinetic	
	- etential	d. heat	
_	is the olde	est fuel that is used all over the world.	
2		b. Wood	
	a. Coal c. Petroleum	d. Natural gas	
	C. Petroleum	enewable source of energy.	
3		b. Biofuel	
	a. Fossil fuel	d. Wind	
	c. Sun	el made of living organisms that can be	
4		I made of home significant	
	planted.	b. Biofuel	
	a. Fossil fuel	d. Gasoline	
	c. Petroleum		
6	is an example of biofuel.		
	a. Petroleum	b. Coal	
	c. Corn	d. Natural gas	
6	is (are) example (s) of fossil fuel.		
	a. Petroleum	b. Coal	
	c. Natural gas	d. All the following	
7	From the disadvantag	es of the overuse of fossil fuel is (are)	
	\$\$\$\$\$\$rank@@p\$\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\		
	a. cutting trees	b. removal of forests	
	c. air pollution	d. a & b	
8			
	a. cutting trees	b, removal of forests	
	c. air pollution	d. a & b	



The rate of to	he consumption of fossil ruel is the fag.
of its formati	on,
a, more than	b. less than
c. equal to	d. no correct answer
(D)	Is produced from the decomposition of plants a
trees.	
a. Petroleum	b. Natural gas
c. Coal	d. Benzene
•	is (are) produced from the decomposition of old
aquatic organ	
a. Petroleum	b. Natural gas
c. Coal	d. a & b
t	akes millions of years to be formed.
a. Fossil fuel	b. Biofuel
c. Charcoal	d. No correct answer
Ethanol is prod	uced from
a. grass	b. corn
c. coal	d.a&b
(I) Global warming	g is one of the disadvantages of burning
G Clobal Walling	y is one or the disductantages of a anning
a. biofuel	b. petroleum
c. coal	d.b&c
All the following	g are non-renewable sources of energy, except
- 7 m the 1011011111	g and morniament beautiful or antigy, except
a. coal	b. wood
_	
c. petroleum	d. benzene
(6) All the following	ig are renewable sources of energy, except
**** f	
a. corn	b. wood
c. petroleum	d. grass
•	



	Correct the underlined words:				
	0	Coal is the oldest fuel that is used all over the wo	orld.		
			()		
	0	Burning fuel produces light energy.	()		
	6	Petroleum is a renewable source of energy.	(
	0	Corn is a non-renewable source of energy.	(,, ,)		
	6	Charcoal is made up of grass, corn or wood chip	os. ()		
	To get fossil fuel, it requires cutting trees & removing fores				
			(
	7	Petroleum is produced from the decomposition	n of tree remains.		
			()		
	8	Coal is produced from the decomposition of alg	jae.		
			()		
	9	Burning of biofuel causes air pollution & global	warming.		
			()		
3	Write the scientific term:				
	•	It is the fuel resulting from the decomposition	n of the remains		
		of living organisms that lived on the earth mill			
	_		()		
	2	It is the fuel made from the living organisms th	nat can be grown.		
			(1141-11-11-11-11-11-11-11-11-11-11-11-11		
	3	It is made up of grass, corn or wood chips.	()		
	4	A Biofuel that made up of wood.	()		
	6	It is produced from the decomposition of plant			
			()		
	6	It is produced from the decomposition of m			
			()		
			Violence or receip special		



	Complete the following:
	fossil fuel.
	biofuel. and are examples of
	Burning of causes air pollution and global warming. To get, it requires cutting tree and removing forests, Burning fuel produces energy.
	is the oldest fuel that is used all over the world. Ethanol is made up of or or
	tree remains.
	g and are produced from the decomposition of algae.
	fuel. and are from the advantages of fossil
	Bio fuel is asource of energy.
5	What is meant by:
	1 Fossil Fuel:
(Biofuel:
	Scanned with CamScanner

6 Label the following figures, then classify them into biofuel or fossil fuel:

Figure	Represents	Biofuel	Fossil fuel
1	Wood	√	**********************
2	•	***********************	E44444)&444
3	*** ****	***************************************	******************************
4		Tiob troductshirms	#1100001A
5	• • • • • • • •	******************	***************************************

7	Give reason for:
44	

U	rossii ruel is a non-renewable source of energy.	
	110000000000000000000000000000000000000	

2	Biofuel is a renewable source of energy.



Unit (3) Concept (2) Lesson (3)

1	Choose the correct ans	wer:
	The remains of old orga	nisms are buried under
	a. rocks	b. sediments
	c. a & b	d. no correct answer
	Undertheeffectofhlgh.	, the remains of old organism
	are transferred to fossil f	uel.
	a. temperature & pressu	ire
	b. temperature & force	
	c. temperature & energy	
	d. no correct answer	
8	ls (are) burr	nt and producing high heat energy,
	a. Petroleum	b. Natural gas
	c. Coal	d. All the previous
4	moves the t	turbines in electric power stations.
	a. Air	b. Steam
	c. Water	d. No correct answer
(5)	Electricity transfers throu	gh wires to cities,
	a. long & huge	b. long & thin
	c. short & huge	d. short & thin
Co	omplete the following:	
1	The remains of old organ	ism are buried under and
2	Under the effect of high remains of old organism c	

	3	Electricity is generated by burning or
		in electric power stations.
	4	The petroleum or natural gas is burnt and produces
		energy.
	6	starts to move turbines in electric power stations.
	0	A dynamo converts energy in the turbines into
	•	energy.
3	W	rite the scientific term:
		It the energy produced from burning fossil fuels. ()
	0	The device which changes kinetic energy into electric energy.
	2	ING GEAICE ALLICIA CALIFORNIA (************************************
		ess steps represent the generation of electricity in
4	Thele	nese steps represent the generation of electricity in ectric power stations. Arrange the following steps from
4	ele	nese steps represent the generation of electricity in ectric power stations. Arrange the following steps from e start to the end:
4	th	ectric power stations. Arrange the following steps from e start to the end: steam starts to move turbines.
4	th	ectric power stations. Arrange the following steps from e start to the end:
4	th - S	ectric power stations. Arrange the following steps from e start to the end: steam starts to move turbines.
4	<u>th</u> - S - T	ectric power stations. Arrange the following steps from e start to the end: Steam starts to move turbines. The petroleum or natural gas burns and produces thermal energy.
4	eld th - S - T - E	ectric power stations. Arrange the following steps from e start to the end: steam starts to move turbines. The petroleum or natural gas burns and produces thermal energy. Electricity transfers through huge wires to cities.
4	eld th - S - T - E	e start to the end: Steam starts to move turbines. The petroleum or natural gas burns and produces thermal energy. Electricity transfers through huge wires to cities. The dynamo converts kinetic energy in turbines into electric energy.
4	eld th - S - T - E	e start to the end: Steam starts to move turbines. The petroleum or natural gas burns and produces thermal energy. Electricity transfers through huge wires to cities. The dynamo converts kinetic energy in turbines into electric energy.
4	eld th - S - T - E	e start to the end: Steam starts to move turbines. The petroleum or natural gas burns and produces thermal energy. Electricity transfers through huge wires to cities. The dynamo converts kinetic energy in turbines into electric energy.
4	eld th - S - T - E	e start to the end: Steam starts to move turbines. The petroleum or natural gas burns and produces thermal energy. Electricity transfers through huge wires to cities. The dynamo converts kinetic energy in turbines into electric energy.



Unit (3) Concept (2) Lesson (4)

Choose the correct answer:

6	Petroleum oil is consid	lered as asource of energy
	a. permanent	b. renewable
	c. non-renewable	d. no correct answer
2	Water is considered as	asource of energy.
•	a, permanent	b. renewable
	c. non-renewable	d. no correct answer
3		is limited on Earth.
9	a. biofuel	b. fossil fuel
	c. a & b	d. no correct answer
4	To reduce air pollution,	we must
	a. walk instead of drivin	g cars
	b. use public transporta	tion
	c. turn off lamps if we do	on't need them
	d. all the previous	
5	The rate of consumption	of fossil fuel is the rated
i	ts formation.	
i	a. more than	b. less than
•	. equal to	d. no correct answer
6 P	etroleum is formed from	the decomposition of
	. bacteria	b. diatom algae
c	. fungus	d. euglena

2	Co	mplete the following:		
	0	The amount of fossil fuel is on Earth	h.	
	0	The rate of formation of petroleum is of its consumption.	than th	ie rate
	3	The chemical structure of water and petroleum a		,
	0	Petroleum is formed from the decomposition organisms called		
	6	Diatom algae is very organism, s	smaller the	an the
	6	Water is considered as asource of e	energy.	
3	Pu	t (/) or (X):		
	0	Water is a non-renewable source of energy.	()
	2	The chemical structure of water and petroleum is	s different. (
	6	The amount of petroleum on Earth is limited.	()
	4	We must light up electric bulbs and electric devineed them.	lces if we	don't
4	W	rite the scientific term:		
	0	They are very tiny organisms, smaller than the	head of a	
	2	The amount of it on Earth is limited.	()



- Give reason for:
 - Water is a renewable sources of energy.
 - Petroleum is a non-renewable sources of energy.
- 6 How to reduce the burning of fossil fuel:
 - 0
 - 0
 - 63
- How to reduce the consumption of water:

Unit (3) Concept (2)

1 0	hoose the correct in			
7	Fossil fuel is extracted	from		
1	a. mountains	b. forests		
	c. rivers	d. underground	earth	
_		lest fuel that used is al	l over the world	١,
8	a, Coal	b. Wood		
	c. Petroleum	d. Natural gas		
	is an exa	mple of blofuel.		
3	a. Petroleum	b. Coal		
	c. Corn	d. Natural gas		
Ó	moves th	e turbines in electric p	ower stations.	
U	a. Air	b. Steam		
	c. Water	d. No correct answ	ver	
6	a wall was is formed from the decorposition of			
9	a. bacteria	b. diatom algae		
	c. fungus	d. euglena		
w	rite the scientific te	rm:		
	fice the actorism con			
0	It the energy produced	from burning fossil fue	d. (.)
0	The amount of it on Ear	th Is limited.	(.)
0	It is made up of grass, co	orn or wood chips.	()
0	The main source of fuel.	,	()
Co	malata the following	•		
-	mplete the following	3•		
0	Any energy chain starts	with the .	•	
9		and	are from t	the
	importance of fossil fuel			



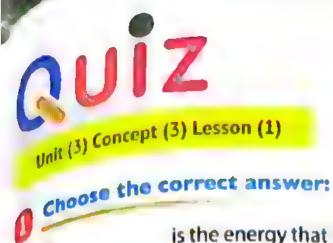
- , it requires cutting trees and removing forest To get
- The remains of old organisms are buried under rocks
- Correct the underlined words!
 - Coal is the oldest fuel that is used all over the world.
 - To get fossil fuel, it requires cutting trees & removing forests.
 - The physical structure of water and petroleum is different,
 - We must light up electric bulbs and electric devices if we don't need them.
- What is meant by:
 - Diatom Algae
- Give reason for:
 - Biofuel is a renewable source of energy.
- What is the importance of:
 - Dynamo

Model Exam 2 Unit (3) Concept (2)

0058 5116 4011	
	tate when the fuel inside the car
a. runs out	b. ends
c. burns	d. no correct answer
	ed from the decomposition of plants or
	b. Natural gas
c. Coal	d. Benzene
Ethanol is produced fro	om ,
a. grass	b. corn
c. coal	d. a & b
The remains of old orga	anisms are buried under
a. rocks	b. sediments
c.a&b	d. no correct answer
Water is considered as	a source of energy.
a. permanent	b. renewable
c. non-renewable	d. no correct answer
rite the scientific to	erm:
The device which char	nges kinetic energy into electric energy.
They are very tiny orga	anisms, smaller than the head of a pin.
	At W. H. of CO SIGN SIGN SIGN SIGN SIGN SIGN SIGN SIGN
It is produced from the	e decomposition of plant and tree remains.
	表表·由于表 在 价格资价值 2 中面面积10.00分子和。
It burns inside the care	engine to make the car move. (
	a. runs out c. burns Is produce trees. a. Petroleum c. Coal Ethanol is produced from a. grass c. coal The remains of old organized as a. permanent c. non-renewable The device which chart They are very tiny organized from the second companies of



Complete the following	1		
tresil tirel.	and	are example	es o
The wheels of the car engine.	when f	uel burns inside th	e ca
Burning of control starts to move	auses air pollutio /e the turbines in	on and global warn electric power stat	ning Ions
Correct the underlined v			
Charcoal is made up of gr	ass, corn or woo	d chips. (,
When fuel burns inside ca	r, the car stops.	(
Burning fuel produces light	ı t energy.	(1
Burning biofuel causes air	pollution & glob	al warming.	
		(.	1
What is meant by:			
- Biofuel			
6 Give reason for:	1 245 1 11 1151 5 1 511		
- Water is a renewable source o	f energy.	*) * (*)	
**		Class & Chargester B hi + +	
What is the importance of			
- Fossil fuel			
THE STATE OF THE STATE OF THE PARTY OF THE PARTY.		* Elembara belevaka talisasabera il si	
** * * ** *** *** *** *** *** ** *** *	egisk o omestistus kidoša de adbija s		



is the energy that run out faster than us consuming it.

- a. Renewable source of energy
- b. Non-renewable source of energy
- c. Permanent source of energy
- d. Solar energy
- All of these are examples of renewable sources of energy, except
 - a. solar energy b. wind energy
 - c. coal d. water falls
- - a. make their life easier b. get tasks done faster
 - c, save their effort d. all the following answers
- 1 The number of blades in a modern mill is the number of blades in an old windmill.
 - a, more than b. less than
 - c. equal to d. double
- A modern windmill is than an old windmill.
 - b. shorter a. taller
 - c. heavier d. no correct answer
- The input energy in the flashlight is
 - a. electric energy b. chemical energy
 - c. kinetic energy d. no correct answer



a depends of	on a renewable source of energy.
a. Petroleum oven	b. Gas oven
c. Solar cell	d. Flashlight
8 The electric heater dependent	ends on a source of energy.
a. renewable	b. non-renewable
c. permanent	d. no correct answer.
Oal is the source of energy	rgy in a
a. gas oven	b. fireplace
c. petroleum oven	d. solar heater
were used to	to grind grains.
a. Solar panels	b. Windmills
c. Fireplaces	d. Gas ovens
In a windmill, it is better to	to
a. increase the number o	f blades
b. decrease the number of	of blades
c. make its blades light	
d. b & c	
Theproduce	s heat and depends on a non-renewable
source of energy.	
a. electric heater	b. solar heater
c. gas oven	d. no correct answer
2 Put (√) or (X):	
Waterfalls are from the ren	ewable sources of energy. ()
	ades to generate kinetic energy.(
A modern windmill is short	. 1
4 Flashlight depends on a no	n-renewable source of energy. (

		Coal is used to operate the gas oven.	()
		all devices dependently.	()
	U	the output energy in a solar heater is solar energy.	()
	0	Old windmills are used in grinding grains.	()
	8	Natural gas is considered from renewable sources of ene	ergy.()
	9	The outcoming energy of a battery is chemical energy	. ()
	O	In the gaps using the following words:		
3	FI	(Coal - heat - chemical - consumes - produces -		
		Wind – taller - shorter)		
	^	is from renewable sources of energy.		
	U	The input energy in a battery is energy.		
	0	The modern windmill is than the old win	dmills.	
	0	is used in the fireplace to produce heat e		
	0	A solar heater heat energy.		
7	w	rite the scientific term:		
4				
	0	It is the energy that will not run out faster than us cons		

	2	They are used to make the life of people easier and get faster.		
		· · · · · · · · · · · · · · · · · · ·		
	3	A device at which wind rotates its blades and it produ		

	4	The source of energy of a flashlight. (*************)
	6	The source of energy of a fireplace. ()
	6	The outcoming energy of a solar heater. ()
	7	The incoming energy in an electric heater. (- 1

Exercises Book



Complete the following:

		o be operated.
	o Is the energy	that will not run out father h
	consuming it.	
	⊕ , and	are renewable sources of energy
	(.)	are non-renewable source; ,
	energy.	,
(@ People use machines to	and
6	Windmills were used to	
(An old windmill is .	than a modern windmill,
(The number of blades in a mod	ern wind mill is this
	the old one.	P.
9	needs	to move
1	The input energy in a flashlight	is energy.
1	The output energy in a flashligh	t is energy,
1	Petroleum oven depends on a	source of energy,
13	The changes electr	ic energy into heat energy.
1	Coal is used in the	to produce heat.
B	Coal is used in the t	o generate electricity.
B	The input energy in a fireplace is	
1	The &	produce heat and depend on
	non-renewable sources of energy	
18	The &	produce heat and depend on
	renewable sources of energy	



6 Study the figures, then answer the following questions:





Figure (1)

Figure (2)

0	What is the output energies of the two figures?	
	(+1-41)-446-4111(+2)-111(+2)-1111(+2)-1111(+2)-1111(+2)-1111(+2)-	
2	Which one of them depend on a non-renewable source of energy?	

Complete the following table:

Device	Source of Energy	Source of Energy Kind
Flashlight	40 441 4887805448410= 7 418755358580070403508446910	\$144746\$\$\$\$485\$\$\$h\$\$\$\$\$6885\$\$\$\$###\$\$7766\$\$\$\$\$\$\$\$\$\$
Solar heater	***************************************	***************************************
Gas oven		***************************************
Fireplace	414114114110111110714141411144141441414	*64************************************
Electric heater	ADAILMADIIA	***************************************



8	<u> </u>	Vhat is the importance of
	0	Machines:
	0	Windmills:
	0	Solar panels:
	0	Flashlight:
	0	Fireplace:
9	W	hat is meant by:
	0	Renewable Source of Energy.
		hts Course of Energy
	0	Non-renewable Source of Energy.
		5 5 5 6 4481 75 CH 5 511C 55 5 5 5 5 5 5
	6	Solar Panels.
		THE PERSON SECTION AND ADDRESS OF A STREET SECTION OF THE PERSON SECTION ASSESSMENT AND ADDRESS OF A STREET SECTION ASSESSMENT ASSES
10	Gly	e an example for:
	1	Renewable source of energy:
		Non-renewable source of energy:
	•	the state of the s

Ð	A device that depends on a renewable source of energy:
0	A device that depends on a non-renewable source of energy
W	hat will happen when:
0	Wind moves the blades of a windmill.
Ω	Water moves the blades of a contract
	Water moves the blades of a watermill.
Giv	ve reason for:
Giv O	********
_	ve reason for:
_	Solar energy is a renewable source of energy.



Unit (3) Concept (3) Lesson (2)

Choose the correct answer:

The surface of the

is not solid

a. Sun

b. Moon

c. Earth

d. Mars

- The surface of the Sun
 - a. is solid as the Moon
 - b. is gas as the Moon
 - c. isn't solid as the Moon
 - d. isn't gas as the Moon
- The Sun consists of different gases, such as
 - a. hydrogen & nitrogen b. hydrogen & helium
 - c. helium & oxygen
- d. oxygen & nitrogen
- The surface of the Sun is called
 - a. sun sphere
- b. gaseous sphere
- c. photosphere
- d. ionosphere
- Sun is very important because
 - a. it provides us with heat energy
 - b. it provides us with light energy
 - c. plants need it to grow up
 - d. all the previous
- If you look directly to the sun for a long time, your eyes w
 - a. see rainbow
- b. be damaged

c. be burned

d. no correct answer



Science Prim. 4 - Second Term

0	Without the sun				
	a. plants will grow up but all animals will die				
	b. Plants will die but all	animals will still be alive			
	c. peoble can depend of	n the Moon instead of it			
	d. life disappears on Ear	th			
8	Heat and light energies	transfer from space to us in the form of			
	a. curved lines	b. waves			
	c. zigzag lines	d. circles			
9	Sunrays are called	dipp instantioners &			
	a. Infrared rays	b. X-rays			
	c. visible rays	d. radioactivity			
(ID)	weather in winter				
	weather in winter.				
	a. Irrigation machines	b. Greenhouses			
	c. Tissue culture	d. No correct answer			
0	The heat energy of the S	un used to warm thepart of			
	a greenhouse.				
	a. internal	b. external			
	c. a & b	d. no correct answer			
12	Curved mirrors are used	for			
	a. warming houses	b. cooking			
	c. getting electricity	d. no correct answer			
B	To warm our houses, we	must place a			
	a. large window on the	a. large window on the wall facing the sun			
	b. large window on the	wall not facing the sun			
	c. small window on the				
	d. small window on the	wall not facing the sun			



	A solar heater is	placed at the	
	a. streets	b. markets	
	c. bathrooms	d. tops of buildings	
(B is (are) the output energy in solar panels.	
	a. Solar energy	b. Electric energy	
	c. Heat energy	d. b & c	
0	a A i	is from the devices that operate by t	izing sola
	energy.		
	a. fan	b. calculator	
	c.TV	d. radio	
_			
2	Put (/) or (X):		
6	The surface of th	e Sun is called photosphere.	· .
6	The surface of th	e Sun is solid as the Moon.	1
6		n Earth in the absence of the Sun.	ſ
	Sunrays are calle		1
		farmers to grow plants that need col	d weather
6	in summer.		(
-		lways placed at the top of buildings.	-
6	A solar cell consis	ts of a large number of small solar pane	els.(
7		y in calculators is the solar energy.	(
8	The output energ	ly III Calculators is also solds on a sy	
8 V	Vrite the scientif	ic term:	
	It is a gar region :	at the edge of the sun that emits light	and heat
1	it is a gas region a	(
	It halve former in	planting crops that need hot weather	in winter
2	it neips farmers in	planting crops districed not weddie	210 10 11
		(
<u> </u> 66 Sa	pience Prim. 4 - Second Term		

	They are used to direct the sunrays towards the co	oking pans,	
6	117	()
4	They are placed at the top of buildings.	()
	It consists of a large number of small solar cells.	(.)
6	The input energy of the calculator.	(,)
C	omplete the following:		
0	Sun consists of different gases, such as		and
3	The surface of the Sun is called	energies. our eyes will	be
0	Without the sun, the plants will		
6	Sunrays are called		
7	help farmers in planting crops that ne	ed hot weath	ner
8	are used to direct sunrays towards the	cooking par	ns.
9	The solar heater is placed at the		
1	A solar panel consists of a large number of	*************	
•	Solar panels change energy into energies.		or
1	The input energy in calculators isener	gy.	
	Science Prim. 4 – Science	cond Term 67	



G	what	is meant	by:

- Photosphere
- Solar Energy
- Solar Panels
- Greenhouse
- Study the figures, then answer the following questions:

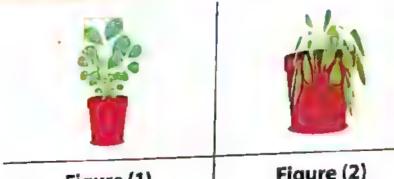


Figure (1)

Figure (2)

- The following figure represents two plants:
 - a. Which figure represents the plant in the absence of the suη?
 - b. What happens to the animals in the absence of the sun?
 - c. What is the importance of the sun?

- The following figure represents a solar oven:
 - a. What type of mirrors are used in this device?



b. What is the importance of this device?

0	The following	figure	represents		
	a solar heater:				
	a. The input en	ergy is			







4	The	following	figure represents	a calculator:
---	-----	-----------	-------------------	---------------

b. It contains provided and small



What is the importance of:

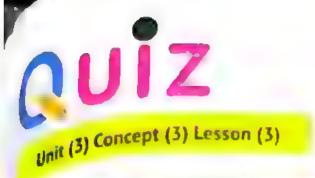
1 The sun.

Solar energy.

69



- Curved mirrors.
- Greenhouse.
- (B) What will happen whent
 - 1 You look directly to the sun for a long time,
 - The sun disappears suddenly.
 - Hydrogen reacts with helium in the Sun.
- Give reason for:
 - Sun is very important to us.
 - You feel the warmth of the sun at night.
 - Greenhouses are very important to farmers.



Choose the correct answer:

- Solar energy causes
 - a. air movements
- b. wind blowing

ca&b

d. no correct answer

change the kinetic energy of turbines into electric

. Motors

energy.

b. Dynamos

c. Windmills

- d. Watermills
- The correct arrangement for generating electricity by using wind energy is
 - a. Sun wind electric lines windmills houses
 - b. Sun wind windmills electric lines houses
 - c. Sun windmills electric lines wind houses
 - d. Sun windmills wind electric lines houses
- Which of the following statements is correct?
 - A dynamo changes electric energy into kinetic energy.
 - b. The wind rotates the blades of watermills.
 - c. Solar energy causes wind blowing.
 - d. Electricity is transferred to cities through thin wires.

10	Unit 3					
	O For	generating a	huge	amount	of	electricit

- For generating a huge amount of electricity, it's better
 - a. increase the number of blades of the turbine
 - b. decrease the number of blades of the turbine
 - c. design light blades
 - d. b & c
- The most effective turbine in generating electricity is ...









Complete the following:

- 1 The sun the earth and the wind.
- 2 Solar energy causes air and wind and wind
- A dynamo changes energy to energy.
- 1t is better to the number of blades inside the turbine

Write the scientific term:

- 2 It causes air movement and wind blowing.

		W.
· (1)	OF	1/1
. (/	0.	and the last of the last
	_	

The wind rotates the blades of windmills.

The motor changes electric energy into heat energy.

Electricity is transferred to cities through thin wires.

It is better to decrease the number of blades of a turbine.

Heavy blades are better than light blades in generating electricity.

6 What is meant by:

_ Dynamo

Study the figures, then answer the following questions:

To generate electricity, arrange the following figures from the start to the end:







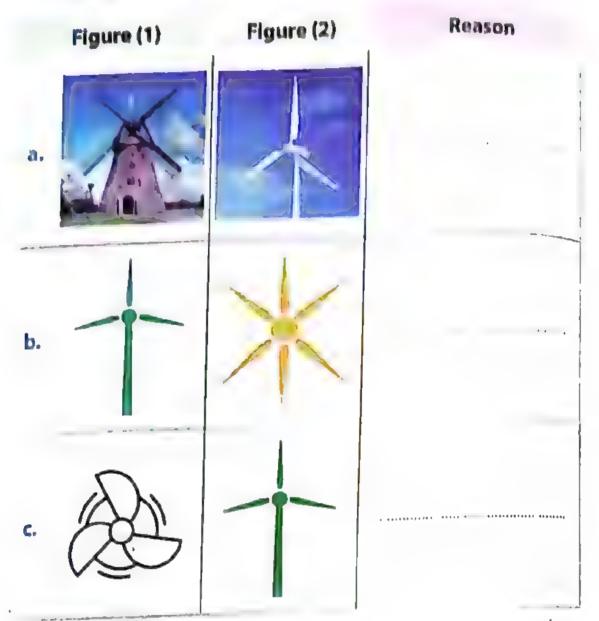






Choose from the opposite figures the most effective turbing

the reason:



Complete the following table:

Device	Input Energy	Output energy
Motor	21226865#104367####################################	\$000050010 pt 13155 gt 145000 to 08 9240110 0801446800
Dynamo	#1400.00.11A41.140.804.00.1111.1111.1111.1111.1111.1	***************************************

8	What	will	happen	when:
---	------	------	--------	-------

The wind rotates the blades of the turbine.

We decrease the number of blades in the turbine.

We replace the light blades of turbines by heavy blades.

Give reason for:

Sun helps us in generating electricity by wind.

Modern windmills are better than old windmills.



Unit (3) Concept (3) Lesson (4)

1	Choose the correct answer:

C	Hoose the correct and the
0	Water of rivers stores great at the top of slopes
Ĭ	a. kinetic energy
	b. potential energy
	c. electric energy
	d. light energy
0	When the water of rivers falls from a high slope,
0	a. potential energy is converted into kinetic energy
	b. kinetic energy is converted into potential energy
	c. potential energy is converted into electric energy
	d. kinetic energy is converted into electric energy
3	When the dams stop the flow of water, so the potential energy of
	water
	a. remains constant
	b. decreases
	c. increases
	d. changes to kinetic energy
4	Potential energy is converted gradually into kinetic energy when
	the
	a. dam stops the water
	b. dam allows water to pass
	c. water falls from a high slope

d. b & c

2	C	omplete the following:
	0	When the water of rivers falls from high slopes, potential energy is
	2	The input energy of a dynamo is
	3	When dams stop the flow of water, the potential energy
	4	Electricity transfers to cities through and wires to light houses.
3	Pu	it (/) or (X):
	0	When dams stop water, the kinetic energy of water reaches its maximum value.
	2	When water becomes free, potential energy is changed to kinetic
		energy. ()
	3	A dynamo changes potential energy to kinetic energy. (
4	W	hat will happen when:
	0	Dams store the water of rivers.

(2	The water of dams become free.





1	C	hoose the correct answer:				
	0	A modern windmill is	than an old w	indmill,		
		a. taller	b. shorter			
		c. heavier	d. no correct answer			
	0	Coal is the source of energ	y in the .			
	U	a. gas oven	b. fireplace			
		c. petroleum oven	d. solar heater			
	0	The surface of the Sun	DD:885504*********************			
	6	a. is solid as the Moon	b. is gas as the Moon			
		c. isn't solid as the Moon	d. isn't gas as the Moo	on		
		Which of the following sta	tements is correct?			
		a. A dynamo changes elec	tric energy into kinetic	energy.		
		b. The wind rotates the blades of watermills.				
		c. Solar energy causes wind blowing.				
		d. Electricity is transferred to cities through thin wires.				
	0	Water of rivers stores great	at the to	p of the slopes		
	9	a. kinetic energy	b. potential energy			
		c. electric energy	d. light energy			
0	Write the scientific term:					
4		It is the energy that will n		consuming		
	1	It is the energy that will h	ot full out laster size	(
			- chliabt			
		The source of energy of a fl		athor in wint		
It helps farmers in planting crops that need hot weather						
				F46042 EDE1090940 and 44-2449		
	(1)	The input energy of the cal	culator.	**** *****************		
78	Scien	ace Prim. 4 - Second Term				

3	C	mplete the following:			
	0	Machines need	to be operated, produce heat a	and depend (7 11
	2	non-renewable sources of	energy.		
	6	Sun provides us with . Solar energy causes air	and and wind		
	Co	rrect the underlined w	ords:		
	0	Modern windmills are shor	ter than the old wind	()
	2	Coal is used to operate the		44737233,2-0404	}
	3	Petroleum is from the rene	wable sources of ene	rgy. ()
	4	The outcoming energy of a	battery is chemical e	nergy.	
				E)
5	WI	nat will happen when:			
	– TI	he sun disappears suddenly.			
	***	***************************************	(1) 333 3 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	****** *******	
	****	**************************************	8445144841894444844444444444444444444444	*****************	
6	Wł	at is meant by:			
	- Pł	notosphere			
	****			***************************************	
	*****		4-4-6-7-4-1-4-4		





Choose the correct answer:

- All of these are examples of renewable sources of energy, except
 - a. solar energy
- b. wind energy

c. coal

- d. water falls
- In a windmill, it is better to
 - a. increase the number of blades
 - b. decrease the number of blades
 - c. make its blades light
 - d. b&c
- The surface of the Sun is called.
 - a. sun sphere
- b. gaseous sphere
- c. photosphere
- d. ionosphere
- Potential energy is converted gradually into kinetic energy when the
 - a. dam stops the water
- b. dam allows water to pass
 - c. water falls from a high slope
 - d. b & c
- The most effective turbine in generating electricity is





b



c.



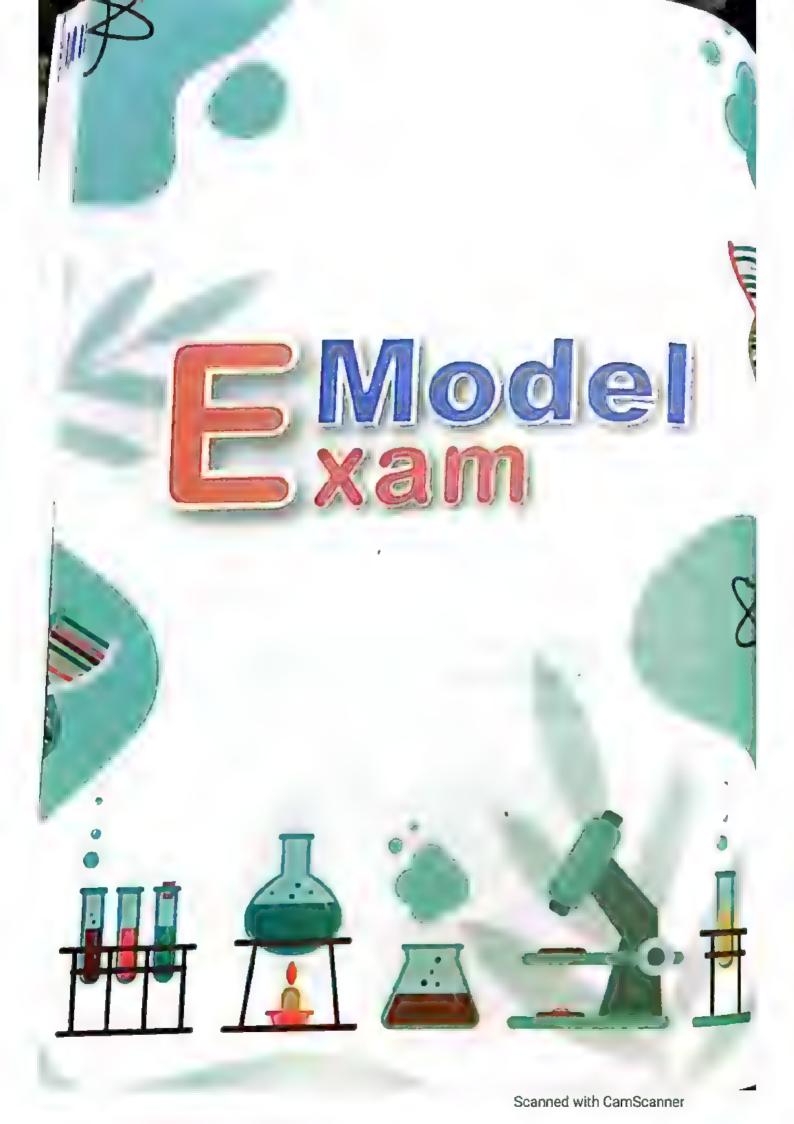
d





Science Prim. 4 - Second Term

2	Write the scientific term:				
	0	It is used to make the life of people easier and faster.		ks done	
	2 3	The source of energy of a fireplace. It is a gas region at the edge of the Sun that emits	s light a		
	4	It consists of a large number of small solar cells.	(
3	Co	implete the following:			
	① ② ③ ④	A solar heater is placed at the			
	ก	All devices depend on renewable sources of energy.	1	1	
	2	Natural gas is considered from renewable sour	rces of	energy.	
	3	Motor changes kinetic energy into electric energy. When dams stop water, the kinetic energy of the	. (
		its maximum value.	()	
5		e reason for: le feel the warmth of the sun at night.))}	
6	Wh	nat is meant by:	**********************	1446544444444	
	Ro	enewable Source of Energy.	II daalydhin jaaraa		



(Madel Exam)

			A STATE OF THE PARTY OF				
	Choose the correct answer:						
	0	Ecologists study the f	Ecologists study the flow of Energy in difficult Ecosystems such				
		a. north pole c. forests	d. a 8				
		is (are) e	is (are) example (s) of biofuel.				
	0	a. Petroleum	b. Co	al itural gas			
		c. Corn		on m	nars.		
	6	Curiosity is the most famo	п. эр	acecraft			
		a. Application	d. Ro	cket			
	0	c. Robot Car seat-belt used to	keep th	e body of dri	ver from	moving	
			t. da	wnward			
		a. upward c. backward		rward			
		Write the scientific term:					
2	W	It is a gas region at the edge of the sun that emits light and heat.					
	1	It is a gas region at the	e edge of 1	the sun that en	()	
	0	The input energy in ca	alculator.		(changed.	
	8	Energy is neither crea	ited nor d	estroyed but it	()	
	0	A heavy steel ball swir	nging on a	cable.	()	
3	Co	mplete the following	ng:				
	0	Spacecraft needs mor	e than	mon	ths to rea	ach mars.	
	0	Electric iron changes		energy to		energy.	
	0	Solar cars are	in w	eight.			



Batteries store

energy and used to the

- Correct the underline words:
 - Charcoal is made up of grass, corn or wood chips.
 - Electric vehicles cause climate changes.
 - Any energy chain ends with the sun.
 - The input energy in the solar cell is electric energy.
- Mention the input and output energies of the







- 6 What meant by:
 - Renewable source of energy
- Give reason for:
 - People use machines.
- (B) What is the importance of:
 - Green house:



84 Science Prim. 4 - Second Term

Model Exam 2

1) =	hoose the correct answer:			
	1	The amount of	ls limited on the	earth.	
		a. biofuel	b. fossil fuel		
		c. a & b	d. no correct answ	ers	
	2	Modern wind mill is	than old wi	nd mill.	
		a. taller	b. shorter		
		c. heavier	d. no correct answ	er	
	3	Sound energy is pro-	duced from all the follow	ving devices except	
		a. Cellular phone	b. TV		
		c. Radio	d. electric iron		
	4	The correct arranger energy is	ment for generating elec	tricity by the wind	
		a. Sun – wind – electi	ric lines – wind mills - ho	uses	
		b. Sun – wind – wind	mills – electric lines - ho	uses	
		c. Sun – wind mills –	electric lines – wind - hou	ıses	
		d. Sun – wind mills –	wind – electric lines - ho	uses ·	
2	W	rite the scientific t	erm:		
	1	A heavy steel ball swi	nging on a cable.	()	
	2	A device used to light	houses.	()	
	3	The input energy in h	and bell.	()	
	0	It burns inside car eng	gine to make the car mov	es.	
				()	

3 Complete the following:							
Truck causes damage than th	ie car.						
2 Hair dryer changes ener	rgy to						
and energies.							
Solar cars don't cause							
and are non-renewab	le sources of energy						
Correct the underline words:							
Solar vehicles need gas stations.	(
Coal is used to operate the gas oven.	(.						
6 Any energy chain ends with the sun.	(
Kinetic energy is lost during collision.	Kinetic energy is lost during collision.						
The following figure represents a solar heater:							
 The input energy is The output energy is It is placed on the What's happen when: 							
- You look directly to the sun for a long time.	4 post 4						
What is the importance of:							
Seatbelt	2 do 2 d 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2						
2 Dams	Do 2 2 2 4 4 4 5 4 5 4 5 4 7 7 4 6 5 5 5 5 4 5 7 7 4 6 5 5 5 7 7 7 6 5 6 6 7 7 7 7 7 7 7 7 7						

Alexand Sugar 3

Choose the correct answer: The most effective turbine in generating electricity is d. c. All the following are renewable sources of energy except b. wood a. com d. grass c. petroleum Heat energy is in solar heater. b. produced a. consumed c. lost d. destroyed When a hits a person, he may be injured only and survive. b. truck a. train d. bike c. car

Write the scientific term:

To get it, it requires removal of forest and cutting tree.

Very tiny organisms, smaller than the head of a pin.

- Device used to transfer images and sounds
- The input energy of the calculator.

Complete the following:

- Air bag is made of thin steering wheel.
- mater a foldes mit ...
- fossil fuel.
- When a player hits the ball with a bat the speed of the ball in the direction.
- Batteries store energy and used to begin

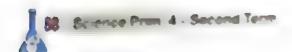
Correct the underline words:

- 1 The surface of the sun is solid.
- When fuel burns inside a car, the car stops.
- Solar vehicle needs to be charged.
- Electricity transfer to cities through thin wires.

Complete the following table:

Device	Input Energy	Output energy
Motor		
	The state of the s	

Dynamo



- 6 What moant by:
 Photosphere
- Give reason for:
 - Petroleum is a non-renewable source of energy.
- 8 What is the importance of:
 - Alr bag:
 - Possil fuel:

	Choose the correct	answer:	
	The surface of the su		
	a. sun sphere	b. gaseous sphere	
	c. photosphere	d. ionosphere	
6	contair	ns chemical energy.	
	a. Solar heater	b. Batteries	
	c. Radio	d.TV	
6	Ethanol is produced	from .	
	a. grass	b. corn	
	c. coal	d. a & b	
	Heat and light energ	gies transfer from space to	us in a form of
	a. curved lines	b. waves	
	c. zigzag lines	d. circles	
3 <u>w</u>	rite the scientific t	erm:	
0	It consists of large nu	mber of small solar cells.	(
a	The input energy of t		1
6	a l		(
0	•	ced from burning fossil fu	el. (
•			
Co	mplete the following	ng:	
0	Sun consists of diff	ferent gases such as	an
2	produce	d from the decomposition	n of algae.
3	Solar vehicles don't ne	eed or	
	Calar anarov causes ai	r and wind	

	Correct the underlined words:					
4)	0	All devices depend on renewable s				
	0	The chemical structure of water and	d petroleum is the same.			
	•		(
	3	Charcoal is produced from the dec	omposition of tree remains, (
	4	After collision, the air bag inflates				
6	Wi	hich figure represents more se	evere damage and why?			
6		0 50 0 8	0.050.0			
		Figure (1)	Figure (2)			
6	WI	nat will happen when:				
	- W	hen the ball of newton cradle is rais	ed up			
7.	w.	at is the importance of:				
	0	Curved mirrors in solar oven.				
		***************************************	***************************************			
	2	T.V				
		\$1000000000000000000000000000000000000	***************************************			



1	Choose the correct an	15Witt	
	Coal is the source of er	nergy in	
	a. gas oven	b. fire place	
	c. petroleum oven	d. solar heater	
	Water of rivers stores g	reat at th	e top of slopes,
	a. Kinetic energy	b. Potential energ)	/
	c. Electric energy	d. Light energy	
	Slow objects cause	•	
	a. great damage that ca	an't be repaired	
	b. great damage that ca		
	c. small damage that ca		
	d. small damage that ca		
	The distance between		Million
	kilometers.		
	a. 54	b. 55	
	c. 44	d. 45	
N	rite the scientific ter	m:	
-	It is the moment of crash	hing of two objects to	gether.
•	it is the money	-	(
0	It is the energy that will	not run out faster that	n consuming it.
•	it is the energy that was		(
0	Energy neither created n	or destroyed.	(
0	It is made up of grass, co		(
	•		

	0	Cars stop, whe	and	are examples of				
	2	blofuel.						
	6		on, The air bag	•				
	0	The input ener	rgy in running is .	energy				
4	Correct the underline words:							
	0	heavy objects always cause damage less than light objects.						
	•			AESSTAND ENTRESONA LIVERDEDA				
	2	Burning of bio	fuel cause air polluti	on & global warming.				
	•			(.,				
	63	Increasing the	e number of blades is	better. (
	_	dynamo changes electric energy into kinetic energy.						
		aynamo criani	ges electric energy in	to killetic elicisy.				
	4	dynamo chang	ges electric energy in	()				
6		, vole		e most effective turbine				
6	Ch	, vole		(
5	Ch	pose from the		(



What meant by:

Law of conservation of energy



What will happen when:

- The sun disappears suddenly

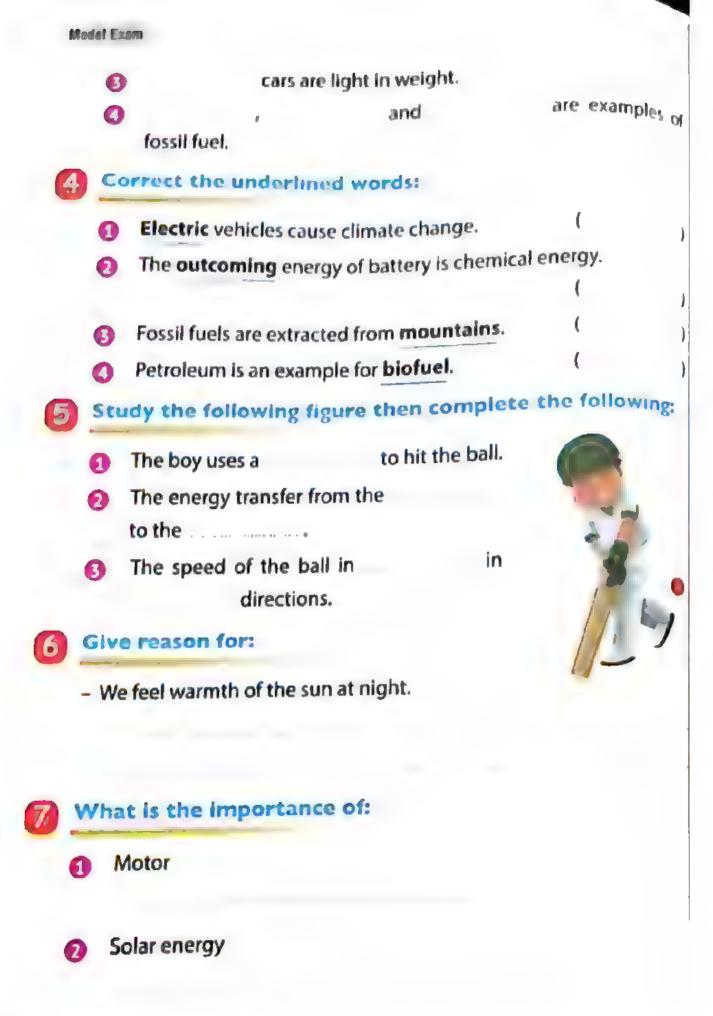


Give reason for:

- Any energy chain starts with the sun.

Model Exam 6

	CI	oose the correct answer:					
	0		ples of renewable source of energy except				
	0	a. solar energy c. coal is (are) o	 b. wind energy d. water falls example (s) of biofuel. b. corn 				
		c. coal	d. Natural gas ices heat and depends on non-renewable				
	0	a. Electric heater c. Gas oven	 b. Solar heater d. No correct answer on mars operated by b. long-term batteries d. b & c 				
2	W	Vrite the scientific term:					
	0	It helps farmers plan	ting crops that need hot weather in winter.				
	3	It burns inside a car er	nergy in difficult ecosystems. () ngine to make the car moves. () energy into electric energy. ()				
3	Co	mplete the followi	ng:				
	0	When water of river	s falls from high slopes, potential energy				
	0	Solar cells change	energy toenergy.				



hoose the correct answer:					
Produced	from the decomposition o	f plants or trees.			
a. Petroleum	b. Natural gas				
c. Coal	d. Benzene				
As object's speed incre	eases, Its kinetic energy				
a. increases	b. decreases				
c. remains constant	d. no correct answer				
Solar heaters are place	Solar heaters are placed on				
a. streets.	b. markets.				
c. bathroom.	d. top of building.				
To make batteries work again, we must					
a. charge them	b. change them				
c. burn them	d. a & b				
uito the selentific tour					
rite the scientific ter	m:				
It is a gas region at the	edge of the sun that emit	s light and heat.			
		()			
The main source of fuel	n source of fuel.				
It absorbs the energy of	f the car during collision.	(10110111111111111111111111111111111111			
	(

mplete the following	:				
is used in f	ire place to produce heat	eneray.			
	Produced a. Petroleum c. Coal As object's speed incre a. increases c. remains constant Solar heaters are place a. streets. c. bathroom. To make batteries work a. charge them c. burn them rite the scientific ter It is a gas region at the It main source of fuel It absorbs the energy of Energy that consumed in mplete the following is used in forest	Produced from the decomposition of a. Petroleum b. Natural gas c. Coal d. Benzene As object's speed increases, its kinetic energy a. increases b. decreases c. remains constant d. no correct answer Solar heaters are placed on a. streets. b. markets. c. bathroom. d. top of building. To make batteries work again, we must a. charge them b. change them			

7	How to reduce burning fossil fuel:				
•		the second secon			
	1	Charles of a second and approximate second as a second			
	2	Personal and the second of the second	* * * ************************		
	3	**** **** ** 1911 1445 * (43+ 1444 +1) (5 = 4+ , (4 +			

[interolation | 8

a ch	oose the correct a	nswer:				
y –		ds on renewable source of energy,				
0	a. Petroleum oven	b. Gas oven				
	c. Solar cell	d. Flash light				
2	From the disadvanta	iges of over use of fossil fuel is (are)				
G	a. cutting trees	b. removal of forests				
	c. air pollution	d. a & b				
63	used to	o move things.				
	a. Dynamo	b. Motor				
	c. Hair dryer	d. electric heater				
4	The car with speed	has the highest kinetic end	ergy			
	a. 100 km/h	b. 80 km/h				
	c. 60 km/h	d. 40 km/h				
2 v	Write the scientific	term:				
(The vehicle that do	esn't need any fuel or electricity.				
•	It is the energy pro-	duced from burning fossii fuel. ()			
(The amount of it or	the earth is limited. (,.)			
•	The incoming ener	gy in electric heater. (.)			
3 5	Complete the follow	omplete the following:				
	When two cars coll	ide in the direction, the dan	nage			
	will be less severe.					
	2is the	energy stored in food.				

	6	Coal is used in	. t 0	o produce ele	ectricity.		
	4	Heavy objects ha	ove	energy.			
4	Co	rrect the unde	rline word:	s:			
	1	The output ener	gy in a calcul	ator is the so	lar ener	gy. (
	2	When a car hits a	boy, he will	survive.		()
	3	wood is a a non-	renewable so	ource of energ	gy.	EMPTION SOURCESTS FOR THE T)
	4	Burning fuel prod	duces <mark>light</mark> e	nergy.		()
5	Arrange the following energy chains from start to end:						
	- D	uring running:					
	Ch	emical en <mark>er</mark> gy	Kinetic en	ergy	Solar e	nergy	
6	Wh	at meant by:					
	– Sc	lar panels					
	**	***************************************	, , , , , , , , , , , , , , , , , , , ,	W15122445744574445W1	57/4004044	**************************************	
7/		e reason for:	77747 577 577 570 574 574 674 644 645	6:01)4:04:1340(64:An)4:09)	******************	5466417744744447944447774	
	– WI	nen you touch an	electric lamp	, you feel ho	t.		
	***	######################################		745 B A A A A A 4 7 7 7 2 2 2 2 2 2 2 3 4 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6		************************	44
	***	******************************	***********************		*************	***************************************	,

[1/16xit-1/1=1:4.11] 9

	Chi	oose the correct answ	er:		
(1)	-	Modern windmills are	than old win	dmills,	
	•	a. taller	b. shorter		
		c. heavler	d. no correct answer		
	•	Heat energy Is	. In electric iron.		
	0	a. consumed	b. resulted		
		c. lost	d. destroyed		
	6	is the fuel r	nade of living organis	ims that can be	
	•	planted.			
		a. Fossil fuel	b. Biofuel		
		c. Petroleum	d. Gasoline		
	4	collision, the air bag deflates fast.			
		a. Before	b. During		
		c. After	d. no correct answer		
2	Wi	ite the scientific term	:		
	ก	Vehicles that have batterie	es must be charged.	()	
	0	A famous game in which t	he player hits the ball v	with a bat.	
	U	J		()	
	3	The amount of it on the ea	arth is limited.	(
	4	It helps farmers planting o	crops that need hot we	eather in winter.	
				(
3	Co	mplete the following:			
	0	It is better to	the number of blades	Inside turbine.	

		A spacecraft needs more than Month to reach mars
	2	A spacecraft needs more than approach your hand.
	3	You feel when you approach your hand to the electric lamp.
	4	The rate of formation of petroleum is
4	Co	rrect the underline words:
	1	Motor changes kinetic energy into electric energy.
		(
	2	Any energy chain ends with the sun. ()
	3	To get fossil fuel, it requires cutting trees & removal of forests,
		(
	4	We must light up electric bulb and electric devices if we don't
		need it.
B	Mei	ntion the advantages and disadvantages of solar vehicles:
		The advantages and disadvantages of solar venicles;
_		Advantages Disadvantages —
		Advantages
	*********	######################################
	**********	41)414414141414141414141414141414141414
	(410800.440)	***************************************
		1 11 0 p f 0 p 2 c p o 1 h di com a
·	(VIII++++++++++++++++++++++++++++++++++	######################################
6	Wh	at is the importance of:
	16/-	
	— vvr	recking ball
	***	\$100}\$
	4-1	
102	Scien	Ce Prim. 4 - Second Term

102 Science Prim. 4 - Second Term

Who dell Bream 10

Choose the correct answer:

- Fast objects cause
 - a. great damage that can be repaired
 - b. great damage that can't be repaired
 - c. small damage that can be repaired
 - d. small damage that can't be repaired
- The surface of the sun
 - a. is solid such as moon
 - b. is gas such as moon
 - c. isn't solid such as moon
 - d. isn't gas such as moon
- Which of the following statements is correct?
 - a. Energy can't be changed from one form to another.
 - b. Energy can be changed from one form to another.
 - c. Energy may be lost or destroyed.
 - d. Energy can be created.
- is the oldest fuel used all over the world.
 - a. Coal
 - b. Wood
 - c. Petroleum
 - d. Natural gas

2	W	rite the scientific term:
	0	It is the energy that will not run out faster than consuming it.
	2	The energy produced due to friction. It is used in cars to keep the driver's body from moving forward during collision.
3	(d) Co	Energy that consumed from hand bell. ()
	0	is used to knock down parts of a building,
	2	Electricity transfers to cities through
	3	The wheels of the car when fuel burns inside car engine.
	4	fossil fuel. and are examples of
4	Co	rrect the underline words:
	0	Fuel powered-cars need to be charged. (.)
	2	Life continues on the earth in the absence of the sun.
		()
	3	Charcoal is made up of grass, corn or wood chips. ()
	4	Burning of biofuel cause air pollution & global warming.
		(

6 Complete the following table:

Device	Source of Energy	Kind
Flashlight	**************************************	V4417140-2050-1-1445-1-2140-1484-1-00VII-445V-1-0-4- A
Solar heater		***************************************
Fire place		0-1 004 0 00000000000000000000000000000000

6 Compare between:

Device	Biofuel	Fossil fuel
Туре	**********************************	\$ ************************************
Importance		484441041114411114444444444444444444444
Disadvantages	a.o.ca.aa.ebaa.bazbioodanisaevriteavelvdoviodaevroteev	1.41011001140011440444444444444444444
Examples		***************************************



Choose the correct answer:

- 0 b
- 2 a
- **6** d

- (d
- **0** d
- **6** a

- (D) 3
- **0** 6
- O b

- D a
- O d
- B d

- m a
- **D** c
- (B) d
- Put (,) or (X):
 - 0 ×
- 0 1
- 0 1

- 0 4
- 6 x
- 0 1

- O X
- 8 1
- 0 4

@ x

Fill in the gaps using the following words:

- Solar cells
- O TV
- **6** consumed
- produced
- S electric heat
- 6 chemical

Write the scientific term:

- Electric Energy
- Solar Energy
- Radio
- Electric Heater
- Solar Cell
- Solar Heater
- **Batteries**

Complete the following:

- 1 TV, cellular phone and radio
- 2 TV, cellular phone and election
- 3 consumed produced
- Solar cells
- 6 electric sound and light
- **6** Batteries
- 0 6
- 3 electric heat kinetic sensor
- plugs electric chargers
- **10** batteries
- Classify the following devices according to devices need to solar energy or electric energy.

Devices that need electric energ

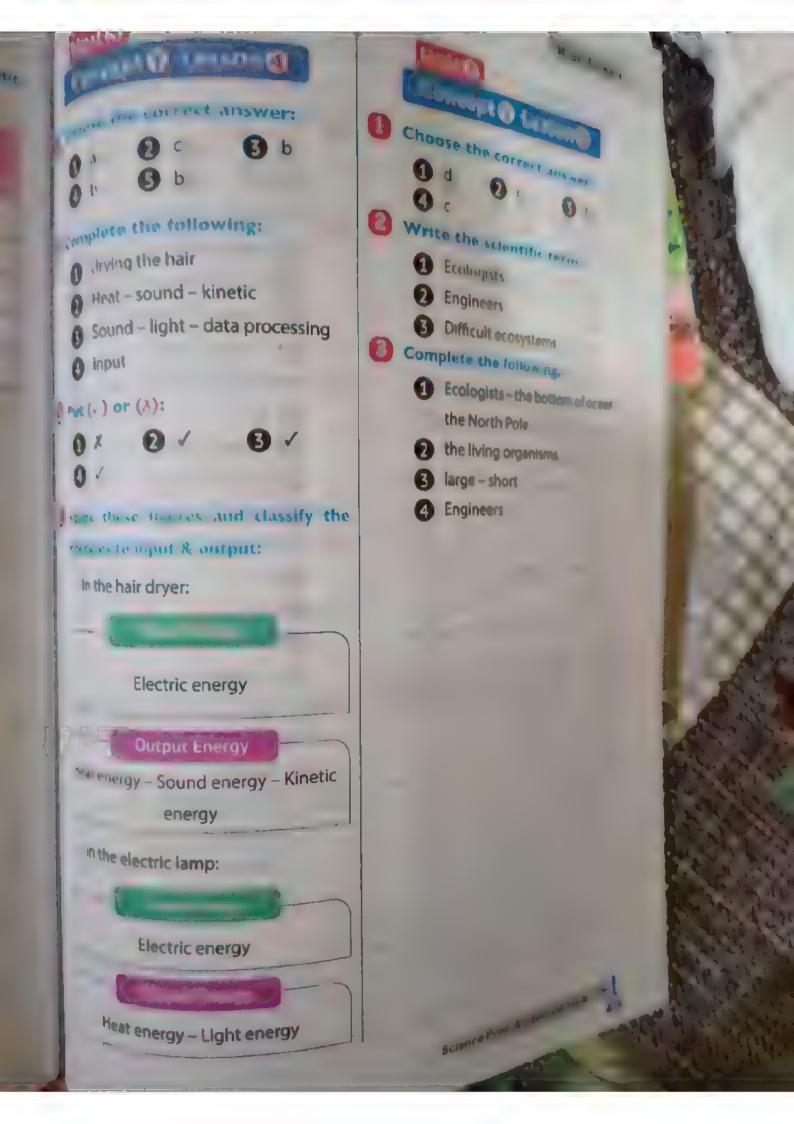
Electric lamp

Mobile phone

فأفك أويستناه

Calculator

Solar cells



Model Exam

- Choose the correct answer:

- Write the scientific term:
 - 1 Chemical Energy
 - 2 TV
 - Heat Energy
 - Ecologists
- Complete the following:
 - move do their functions
 - Coal
 - electric heat kinetic sensors
 - (3) hot
- Put (/) or (X):
- 2 1

- Complete the following table:

	Figure	Energy	Output Energy
	0	Chemical	Kinetic
1	2	Electric	Light - Sound - Data
_			Processing
	0	Solar	Electric

- What is meant by:
 - Law of Conservation of Energy: Energy is neither created nor destroyed but it can be changed from one form to another.

Model Exame

- Choose the correct answer
- b

- Write the scientific term:
 - Engineers
 - Law of Conservation of the
 - Chemical Energy
 - 4 Solar Energy
- Complete the following:
 - A
 - n electric heat
 - electric energy
 - 4 heat friction
- Correct the underlined works
 - 54
 - stop
 - Impossible
 - Output
- Which of the following devs. depend on solar energy to work
 - Calculator
- What is meant by:
 - Solar Cell:
 - A device that changes solal entire into electric energy.





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(2) U

6 "

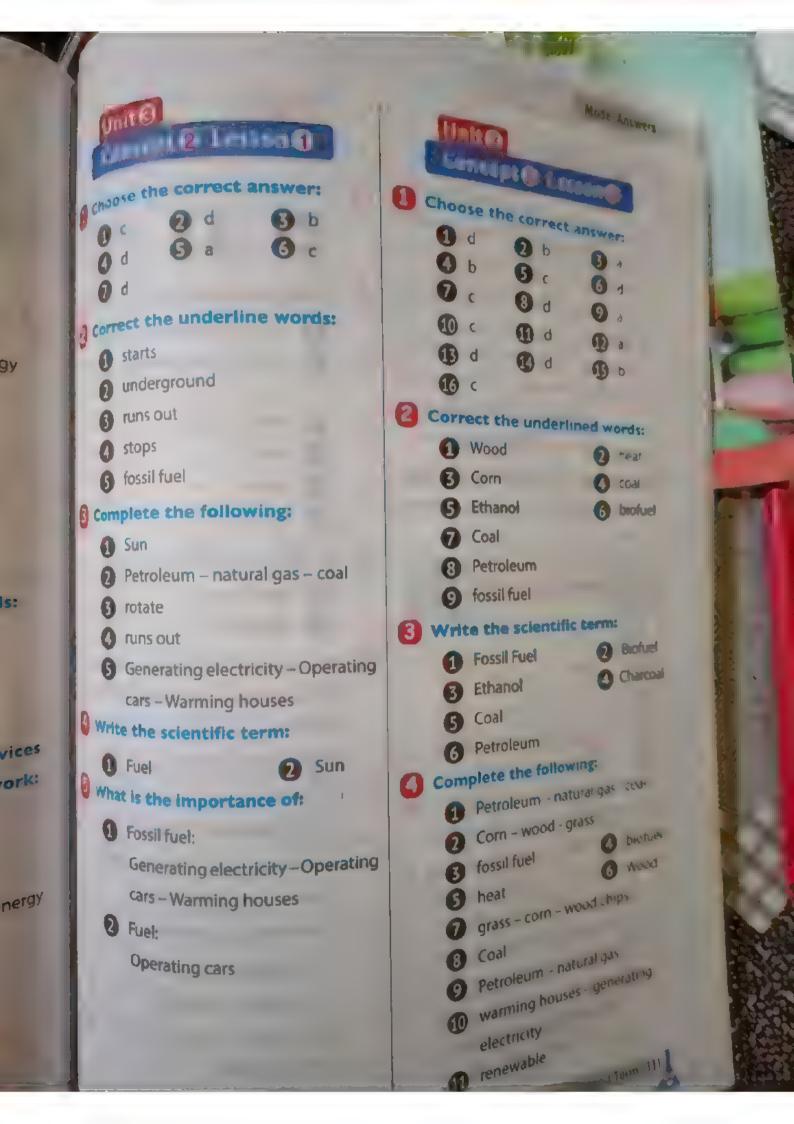
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Write 1

What I

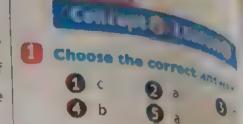


Model Anomore

- What is meant by:
 - Fossil Fuel: It is the fuel resulting from the decomposition of the remains of living organisms that lived on the earth from millions years ago.
 - Biofuel: It is the fuel resulting from the decomposition of remains of living organisms that lived on the earth from millions years ago.
 - Label the following figures, then classify them into biofuel or fossil fuel:

Figure	Represents	Biofuel	Fossil Fuel
0	Wood	1	
0	Coal		1
3	Corn	1	
4	Natural gas		. 1
9	grass	1	

- Give reason for:
 - -Because it starts to run out as soon as we use it.
 - Because the rate of our consumption exceeds the rate of its formation.
 - Because it is renewed with the continuous growth of plants.



Complete the following

fuel

- rocks sediments temperature - pressure - 600
- Petroleum coal
- heat
- Steam
- kinetic electric
- Write the scientific term.
 - 1 Heat Energy
 - 2 Dynamo
- These steps represents general of electricity in electric a stations. Arrange the forsteps from the start to the
 - The petroleum or natural 30: and produces thermal energy
 - Thermal (heat) energy is used: water and produce steam.
 - Steam starts to move turbines
 - The dynamo converts kinetices in turbines into electric energy
 - Electricity transfers through wires to cities.

Complete th

- 1 limited
- 2 less differen
- diatom
- timy F
- renew Put or

Write the

- 1 Diat
- 2 Fos

Give rea

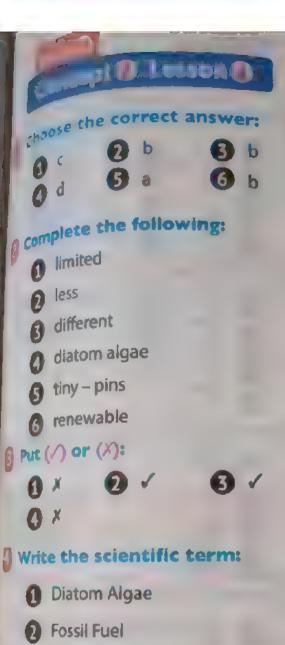
- W:
 - of

al



Look :

Look Look

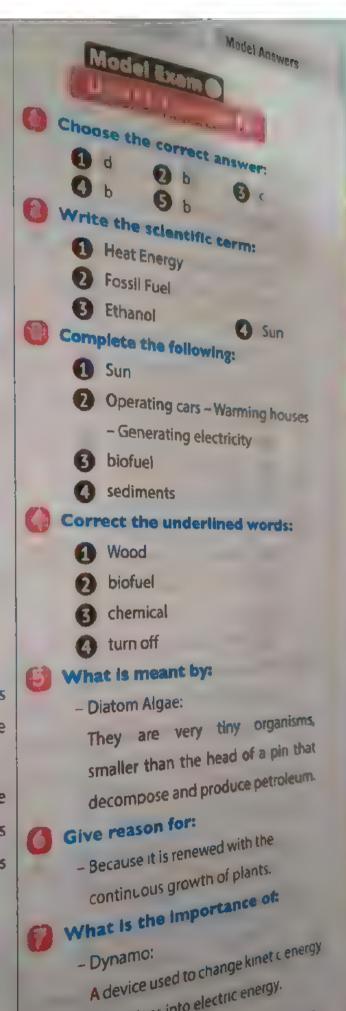


Give reason for:

- 1 Water is from renewable sources of energy because it is available and hasn't been run out yet.
- Petroleum is from non-renewable sources of energy because it is limited and it begins to run out as soon as we use it.

look at page 63.

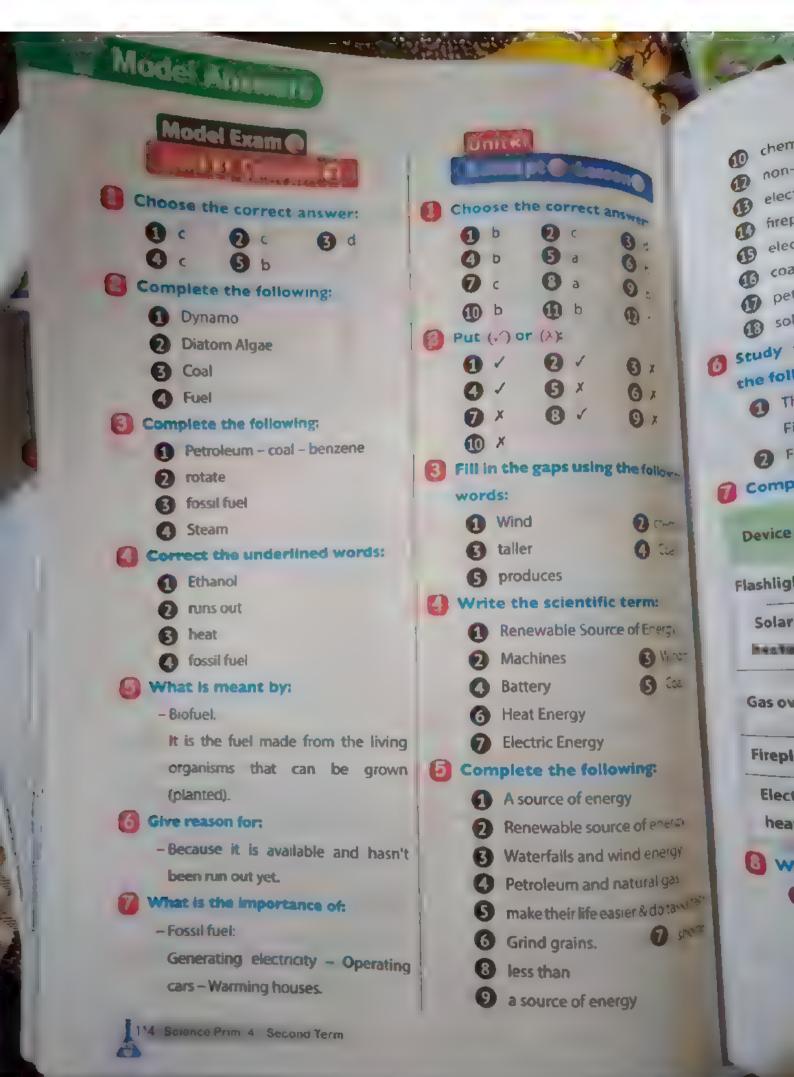
Look at page 64.



- Dynamo:

of turbines into electric energy.

Lance Prim. 4 - Second Term 113



chem

non-

elec

fire

elec

F

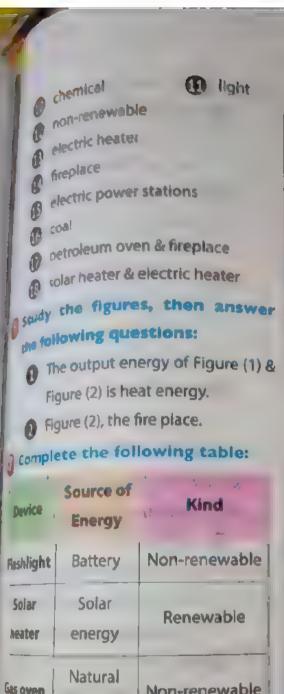
Solar

14.1

Firepl

Elect

hea



Solar heater	Solar energy	Renewable
Gas oven	Natural gas	Non-renewable
fireplace	Coal	Non-renewable
Electric heater	Electric	Renewable

What is the importance of:

1 Machines:

ng

las

il.

People use them to make their life easier and do tasks faster.

2 Windmills:

They are used for grinding grains.

Wate Pulators 3 Solat paras They are seed to put a talk a cor A flashtaga A device had lesses upla bracks 6 Hreplace A device used to you have so only for warming houses What is meant by: 1 Renewable to see chi congr It is the energy that market car out faster than us consuming it. 2 Non-renewable Source of Energy: It is the energy that will run our faster than us consuming it. Solar Panels: They consist of small solar cells and are used to light up street bulbs in cities. Give an example for: Solar energy Petroleum Electric heater 4 Fireplace What will happen when: 1 The internal parts of the mill move and grind grains. 2 Kineticenergy transfers to another windmill and grind grains Give reason for: Because solar energy will not run out faster than us consuming it 2 Because petroleum will run out faster than us consuming it. 3 To make their life easier and get tasks done faster

Science Print 4 - Second Term 115

Concept a Lesson

Choose the correct answer:

- (3) b
- **6** b **9** d

- 10 b
- (fi) a
- D b

- (T) d
- (B) d

b 16

Put () or ():

- 6 ×

- X
- 8 X

Write the scientific term:

- Photosphere
- Greenhouse
- 3 Curved Mirrors
- Solar Heater
- Solar Panels
- 6 Solar Energy

Complete the following:

- 1 hydrogen helium
- 2 photosphere
- 3 light heat
- damaged
- die
- 6 radioactivity
- 7 Greenhouse
- 8 Curved mirrors
- g top of buildings
- solar cells
- solar electric heat
- solar

What is meant by:

Photosphere:

It is a gas region at the the Sun that emits light are

2 Solar Energy:

It is the energy producted the sun.

Solar Panels:

They consist of a large of small solar cells & are generating electricity.

Greenhouse:

It helps farmers in planting that need hot weather in a re-

Study the figures, then answe the following questions:

- 1 a. Figure (2)
 - b. All animals will die.
 - c. It provides us with light and & plants need it to grow
- a. Curved mirrors
 - b. They are used to direct w'. towards the cooking part cooking.
- b. heat ere. 3 a. solar energy
 - c. top of the buildings
- 4 a. solar energy b. batteries - solar cells

What is the importance of

1 The sun:

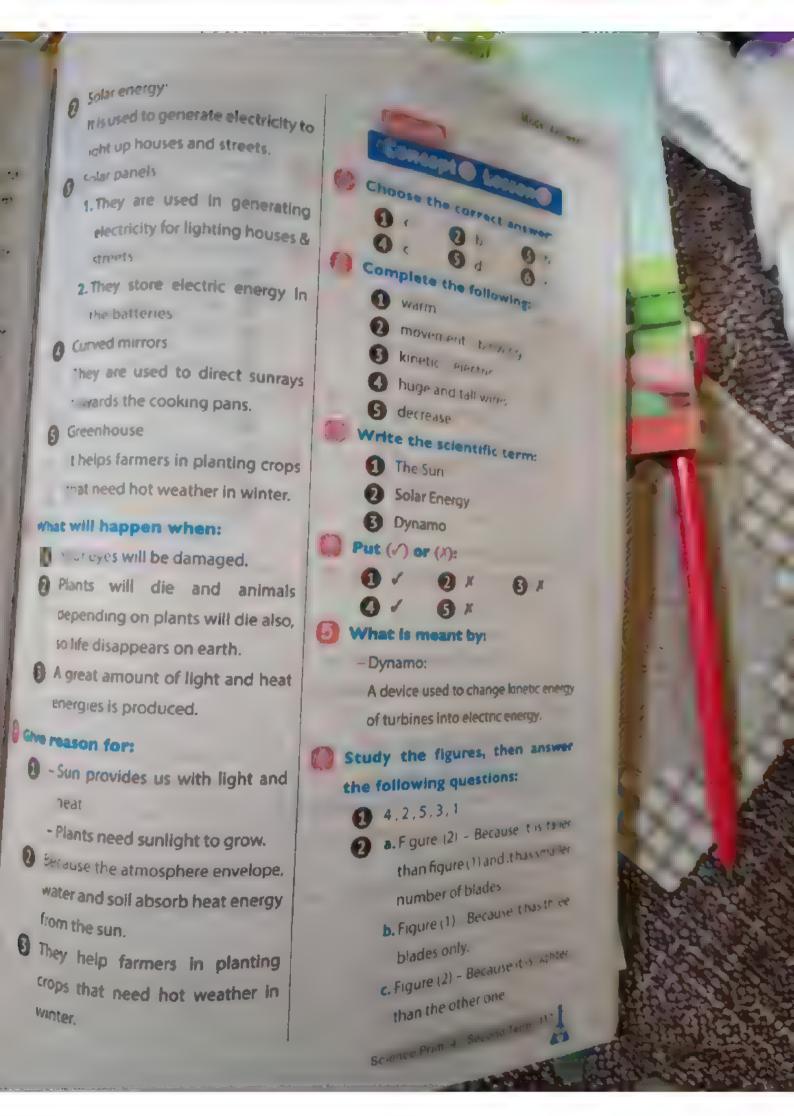
It provides us with light and " and plants need it to grow.

- Solar energy It is used to I ght up ho
- Solar paner
 - 1. They ar electric streets.
 - 2. They the ba
 - Curved r They ar
 - prevot Greenh
 - treic that h
- What will
 - Your !
 - Plant depa
 - Ag

so IT

ene

- Give re



Answer.

Complete the following table:

Device	Input Energy	Output Energy
Motor	Electric	Kinetic
Dynamo	Kinetic	Electric

8 What will happen when:

- 1 Dynamo changes the kinetic energy into electric energy.
- The turbine becomes more effective and generate more electricity.
- The turbine becomes less effective and generate less electricity

Give reason for:

- The sun warms the earth and the wind.
 - Solar energy causes air
 movement and wind blowing.
 - The wind rotates the blades of the windmill.
 - Dynamo changes kinetic energy
 into electric energy.
- The number of blades in modern windmills is less than the old windmills.
 - Modern windmills are taller than old windmills.

(CINCUPLO LEGIONO)

- Choose the correct answer
 - 1 b 2 a 3

() Choose

Write t

RE

C

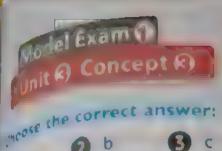
3 G

Q 5

Comp

Corr

- Complete the following:
 - 1 converted into kinetic energy
 - 2 kinetic energy
 - 3 increases
 A huge and long
- Put (/) or (X):
 - 0 x 0 / 3 x
- What will happen when:
 - 1 The potential energy increases
 - 2 It falls on the blades of turbines: they rotate.



ance the scientific term:

- Renewable Source of Energy
- O Chemical Energy
- 3 Greenhouse
- O Solar Energy

complete the following:

- A a source of energy
- A Fireplace petroleum oven
- § light heat
- novement blowing

forrect the underlined words:

- **A** taller
- Natural gas
- 8 Wind
- 4 incoming

What will happen when:

- -The sun disappears suddenly:
 - 1. Plants will wither and die.
- 2. Animals that feed on plants will
- 3. Life disappears on the earth.

What meant is by:

- Photosphere:
- It is a gas region at the edge of the Sun that emits light and heat.



Choose the correct answer

- Write the scientific term
 - Mach nes
 - Coal
 - Photosphere
 - 4 Solar Panel
- 3 Complete the following:
 - 1 top of buildings
 - hydrogen helium
 - talier
 - 4 Fireplace
- Correct the underlined words:
 - 5 Some
 - 2 Wind
 - 3 Dynamo
 - 4 potential
- Give reason for:
 - Because the atmosphere envelope water and soil absorb heat energy from the sun.
- What is meant by:
 - Renewable Source of Energy It is the energy that will not run out faster than us consuming it.

Science Print 4 . Second Term



Model Example

All Interior

- Choose the correct answer:

- Write the scientific term:
 - Photosphere
 - Solar Energy
 - 3 Law of Conservation of Energy
 - Wrecking Ball
- Complete the following:
 - 1 6
 - electric heat
- 63 light
- Chemical devices (toy cars)
- Correct the underlined words:
 - 1 Ethanol
 - Fuel-powered
 - starts
- 4 output
- Mention the Input and output energies of the following:

Figure	Input Energy	Output Energy
Hair dryer	Electric Heat - Sound	
		- kinetic
Electric	Electric	
lamp	Licetife	Light - Heat
Playing	Champion	
football	Chemical	kinetic

- What is meant by:
 - Renewable Source of Energy, It is the energy that will not my faster than us consuming it
- Give reason for:

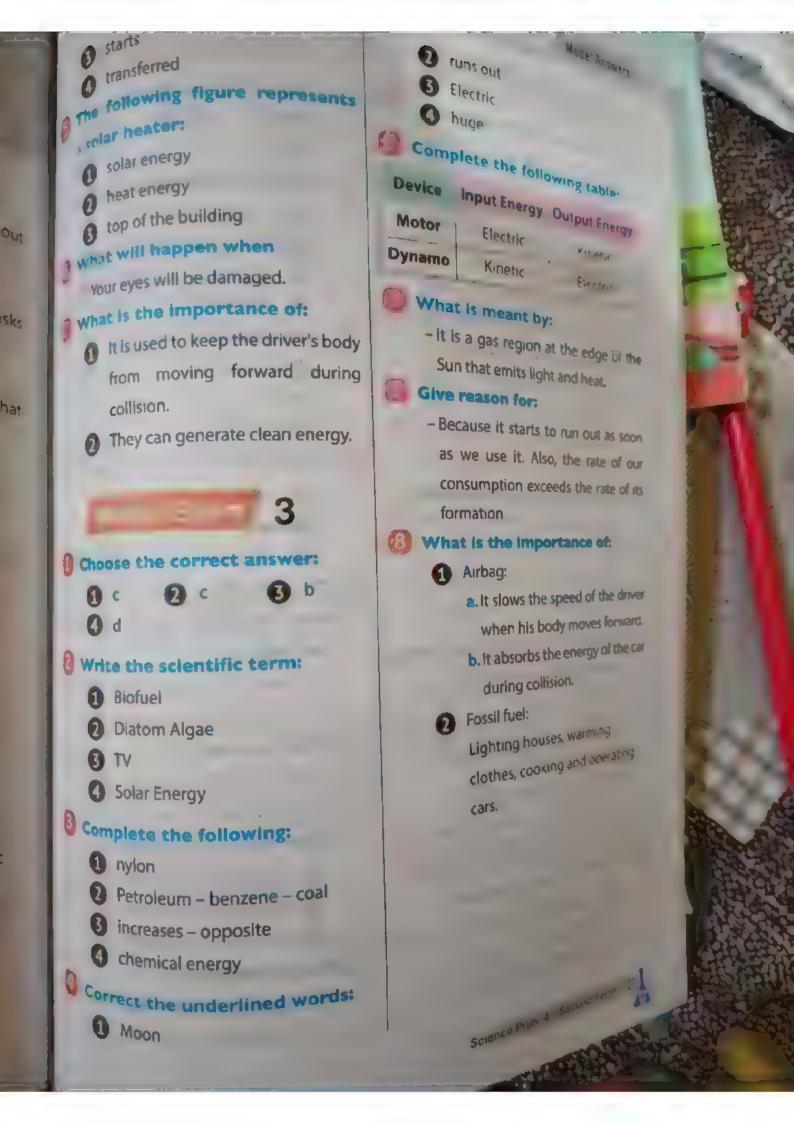
To make their life easier and get to done faster.

- (i) What is the importance of
 - -It helps farmers grow plants the need warm weather in winter

- Choose the correct answer.
 - **(1)** b

- Write the scientific term:
 - Wrecking Ball
 - 2 Electric Bulb
 - Kinetic Energy
 - 4 Fuel
- 3 Complete the following:
 - f) more
 - 2) electric sound heat kinetic
 - Climate changes
 - Petroleum Natural gas
- Correct the underlined words
 - Fuel-powered
 - fireplace

- 3 starts O transferred The following figure
- a solar heater:
 - 3 solar energy
 - 2 heat energy 3 top of the build
- What will happen - Your eyes will be d
 - What is the impo
 - 1 It is used to kee from moving collision.
 - A They can gene
- Choose the corr
- Write the scien
 - 1 Biofuel
 - 2 Diatom Alga
 - ED TV
 - Solar Energy
 - Complete the
 - 1 nylon
 - 2 Petroleum -
 - 3 increases -
 - chemical e
 - Correct the u
 - 1 Moon



Model Answers

Model Exam 4

Choose the correct answer:

Write the scientific term:

Solar Paneis

Solar Energy

Wrecking Ball

Heat Energy

Complete the following:

1 hydrogen - helium

petroleum

electricity - fuel

4 movement - blowing

Correct the underlined words:

Some

different

Coal

4 deflates

Which figure represents more severe damage and why?

- Figure (2) Because the two cars collide in opposite directions.

What will happen when:

- The ball stores potential energy and it doesn't have any kinetic energy.

What is the importance of:

1 To direct the sunrays towards the cooking pans.

To transfer light and sound.

Model Exam 5

Choose the correct answer

choo

Corr

(2)

Stuc

com

(1)

2

- B

Write the scientific term:

Collision

Renewable Source of Energy

Law of Conservation of Energy

4 Ethanol

Complete the following:

1 runs out

Corn - grass - wood

inflates

Correct the underlined words

more

fossil fuel

Decreasing

(5) Choose from the figures to most effective turbine & daily the reason:

- Figure (2), because it is taller thin figure (1) & it has 3 blades only.

What is meant by:

- Energy is neither created nor destroyed it is changed from one form to another

What will happen when:

1 Plants will wither and die.

Animals that feed on plants will of

3 Life disappears on the earth.

Give reason for:

- Because the Sun is the main sould of energy.

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Wel Exam 6 ow the correct answers 0 to 0 b on the scientific terms & Grenhouse & Ecologists

A Dynamo were the following:

a danges to kinetic energy

a sour-electric

(Solar

nk al

01

Efter.

ritty

han

BAC E

het.

Jir.

MER

A Retoleum - natural gas - coal

met the underlined words:

A Fel-powered

incoming.

onderground.

la tossil fuel

the following figure, then

reporte the following:

1 to the second of the

♦ bar-ball

@ roeses - different.

reason for:

the atmosphere envelope, neer and soil absorb heat energy Firm the sun.

The importance of:

It is used to move objects.

Pariting inside greenhouses

t. Operating intigation machines

C Warming houses d. Cooking Heating water

Model Exam 7

Choose the correct answer:

Oc Os Od

Write the scientific term

1 Photosphere

The Sun Airbag

4 Solar Energy

Complete the following:

€ Coal

A Heat energy 3 light

4 louder lasting

Correct the underlined words:

1 windmills 2 Wood

3 puzzie 4 stops

What is the type of the fuel:

- Figure (1): Renewable source of

- Figure (2): Non-renewable source of

- Figure (3): Non-renewable source of energy.

6 What is meant by:

- Renewable Source of Energy: It is the energy that will not run out faster than us consuming it.

How to reduce burning fossil fuel:

1 Walking or driving a bike instead of driving cars.

Using public transportations.

Turning off electric bulbs and electric devices if we don't need them.

Science Prim, 4 - Second Term, 123



Model Answers

Model Exam | 8

Choose the correct answers

- 2 C

Write the scientific term:

- Solar Vehicle
- 2 Heat Energy
- Fossil Fuel
- 4 Electric Energy

Complete the following:

- 1 same
- Chemical energy
- electric power stations
- 4 high

Correct the underlined words:

- 1 input
- bike
- Coal
- 4 heat

Arrange the following energy chains from the start to the end:







What is meant by:

- Solar panels

They consist of a large number of small solar cells. They change solar energy into electric or heat energies.

Give reason for:

- A part of the electric energy changes to heat energy. So you feel hot when you approach your hand to it.

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Model Exam 9

- Choose the correct answer
- 2 b

Write the scientific term

- 1 Electric Vehicle
- 2 Cricket Game
- Fossil Fuel
- Greenhouse

Complete the following:

- **1** decrease
- 6 hot
- 4 less
- Correct the underlined words:
 - dynamo
- 2 starts
- 6 biofuel
- 4 turn of

Mention the advantages and disadvantages of solar vehicles

Advantages

- 1 They don't need fuel.
- 2 They don't need electricity.
- 3 They don't cause climate changes
- 4 They are light in weight.

Disadvantage

The amount of energy it gets from the sun is smaller than what it gets from gasoline or electricity.

What is the importance of

- It is used by construction workers to knock down parts of buildings.

Mode

- 1 Choose th

 - 4
- 2 Write the
 - Rene
 - Heat Seat
 - Kine
 - Complet
 - Wre hug
 - rot
 - Pet

Correct

- Ele
 - di: Et
- 4) fo
- [Comple

Device

Flashlight

Solar

heater

Fireplace

Choose the correct answer:

Write the scientific term: Renewable Source of Energy

1 Heat Energy

3 Seatbelt

A Kinetic Energy

Complete the following:

1 Wrecking ball

1 huge wires

3 rotates

off

rs to

Petroleum - natural gas - coal

Correct the underlined words:

Electric cars

1 disappears

6 Ethanol

A fossil fuel

Complete the following table:

Device	Source of energy	Source of Energy Kind	
Flashlight	Chemical energy	Non-renewable	
Solar	Solar energy	Renewable	
Fireplace	Coal	Non-renewable	

Compare between:

P.O.C.		Biofuel		Fossil Fuel	
Its type	Rei	newable	Nor	n-renewable	
	1.	Lighting	It is		
		houses a renewable		enewable	
	2.	Warming	501	urce of	
Importance		houses	en	ergy.	
	3	Cooking			
	4	Operating	-		
2 3 1 11 3	1	cars			
	I	t causes:	T	o get it, it	
COLUMN THE WAY		1. Air	r	equires:	
Disadvantag	es	pollution.	1	. Cutting trees	
100		2. Global		. Removal of	
1		warming.		forests.	
		1. Petroleur	n	1. Wood	
1000		2. Natural	1	2. Grass	
Example	es	gas		3. Corn	
		3. Benzene		4. Wood chip!	
		4. Coal			

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